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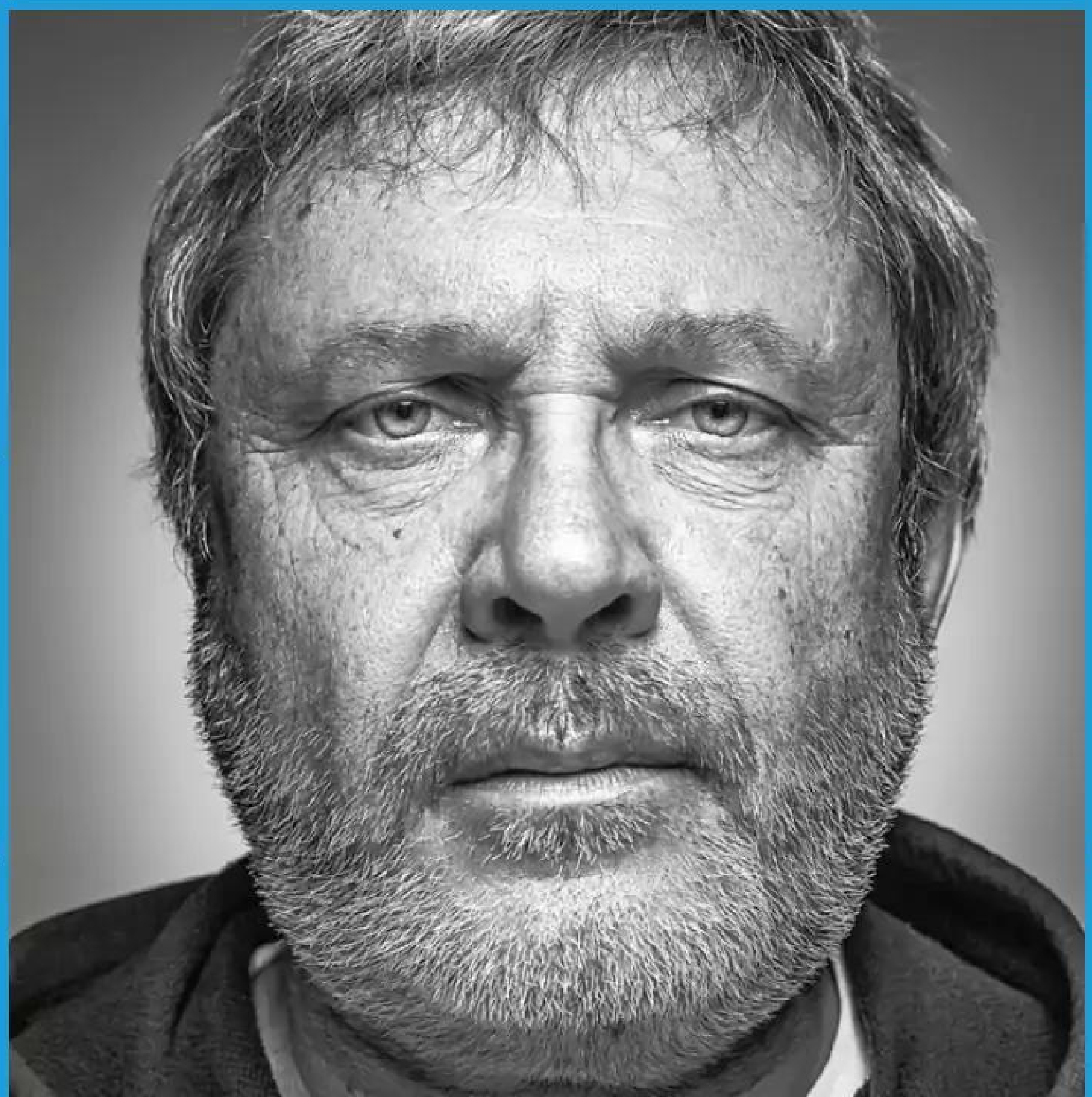

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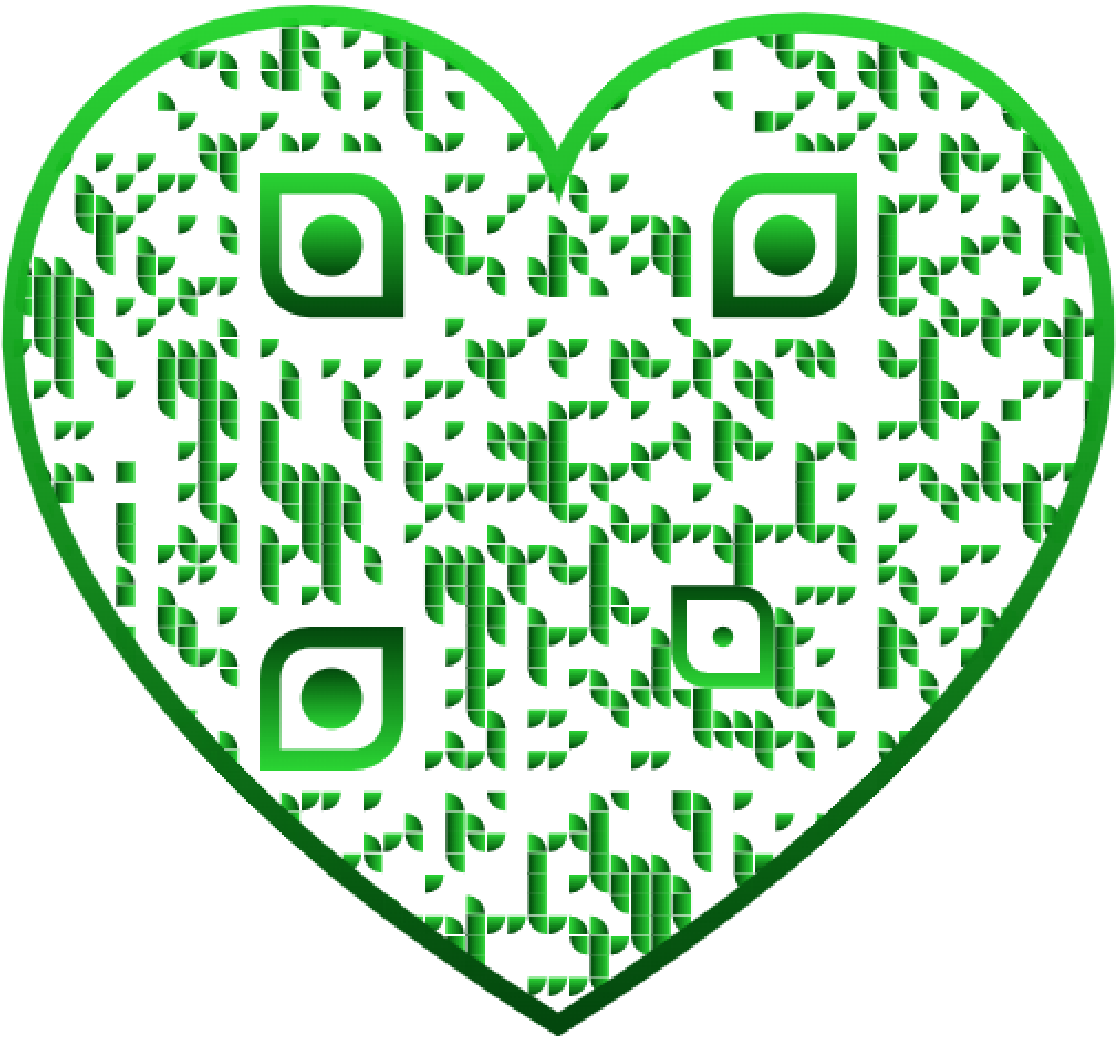

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Papercut's

Black & White Photography

CREATIVE MANUAL

Black and white photography, to many, is the essence of what photography is all about. It is considered traditional, yet has a magic that is hard to deny. Many people who have been avid colour photographers, are pleasantly surprised by how magical monochromatic work can be. It suddenly opens up new avenues of creative endeavour that can become quite captivating.

Within the pages of this independent user manual, we will cover many aspects of the craft, as well as delving into some of the more technical aspects of post-work, photo editing and conversion techniques. All helping your photography to take a big step forward into new creative areas.

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View from the window at Le Gras - believed to be the oldest surviving camera photograph, taken around 1826-1827.

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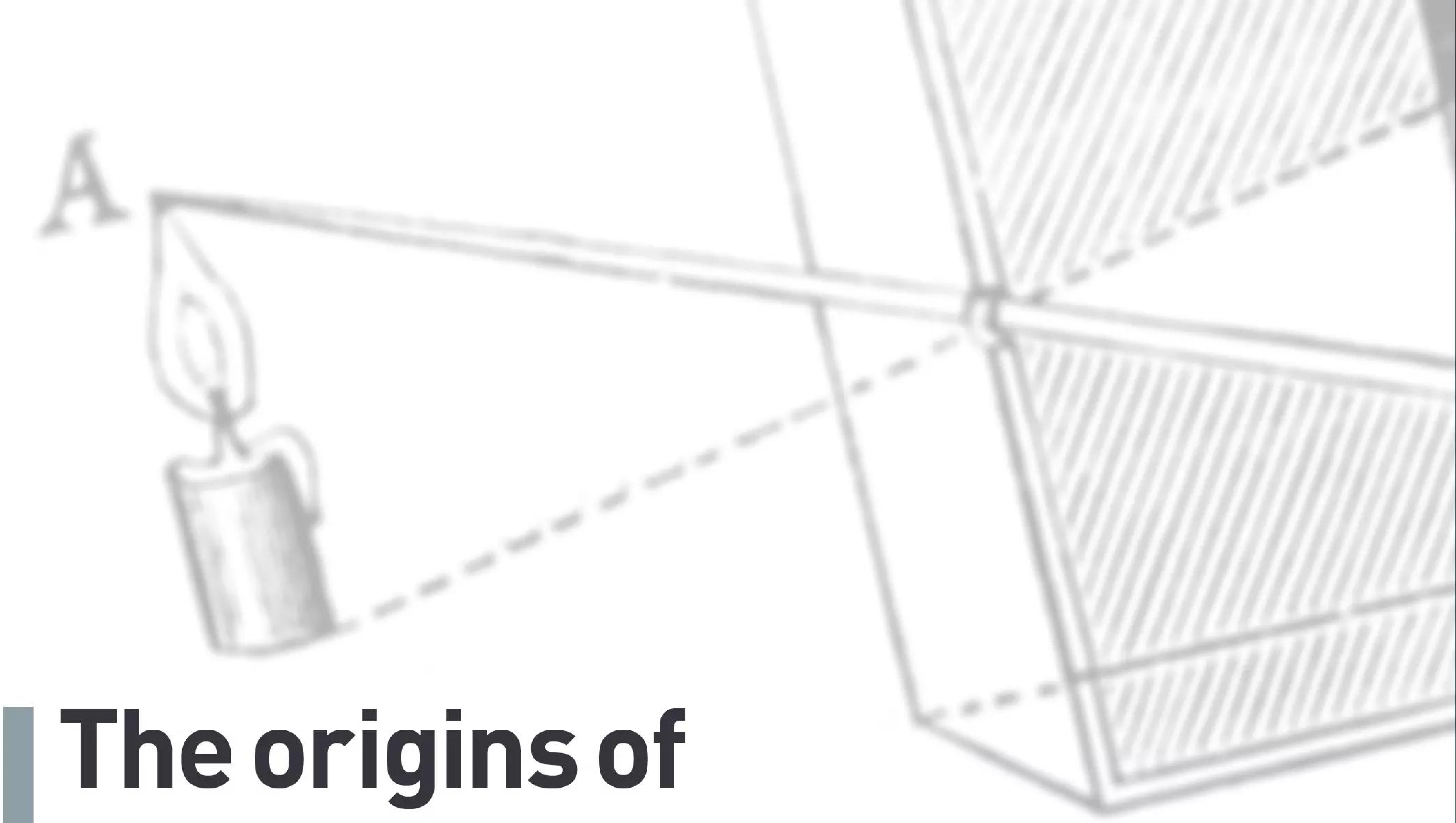


The origins of photography

A SMALL HISTORY LESSON ABOUT HOW THE BLACK AND WHITE MEDIUM WAS CONCEIVED

You cannot talk about black and white photography without talking a little about the history of photography itself. The two are inextricably linked because all we had to begin with, at the dawn of the medium, was black and white. It goes without saying that the equipment and techniques we have today are a far cry from those early days when the pioneers of photography were experimenting with how to collect light, light-sensitive materials and equipment to capture and focus the image.

The story of black and white photography, although cited as beginning sometime in the 1800s, actually goes back much further in history to the days of Aristotle around 384-322 BC. Aristotle understood the principle of the camera obscura (dark chamber), although at the time there was no known method to 'fix' an image cast by the camera, and so create a permanent record.

From the earliest principles that brought the world the camera obscura, and the observable phenomena that certain substances were visibly altered by exposure to light, the course of photographic endeavour has been well documented and we owe those early pioneers a debt of thanks for bringing us our beloved world of photography.

The first recorded attempt to unite light captured on light-sensitive material is Thomas Wedgwood circa 1800. Although it appears the attempt to capture light via a camera obscura on treated white leather or paper was unsuccessful, it paved the way for Nicéphore Niépce in the mid 1820s. His attempt was very crude and the exposure took several days. His associate at the time was one Louis Daguerre, who went on to create what is generally held to be the first publicly announced system, the daguerreotype. Unlike the many days required by Niépce's process, a daguerreotype could be exposed in minutes, with much greater clarity in the final image on metal-based materials. Henry Fox Talbot was soon to compete with Daguerre's system through his own paper-based calotype negative and salt print process.

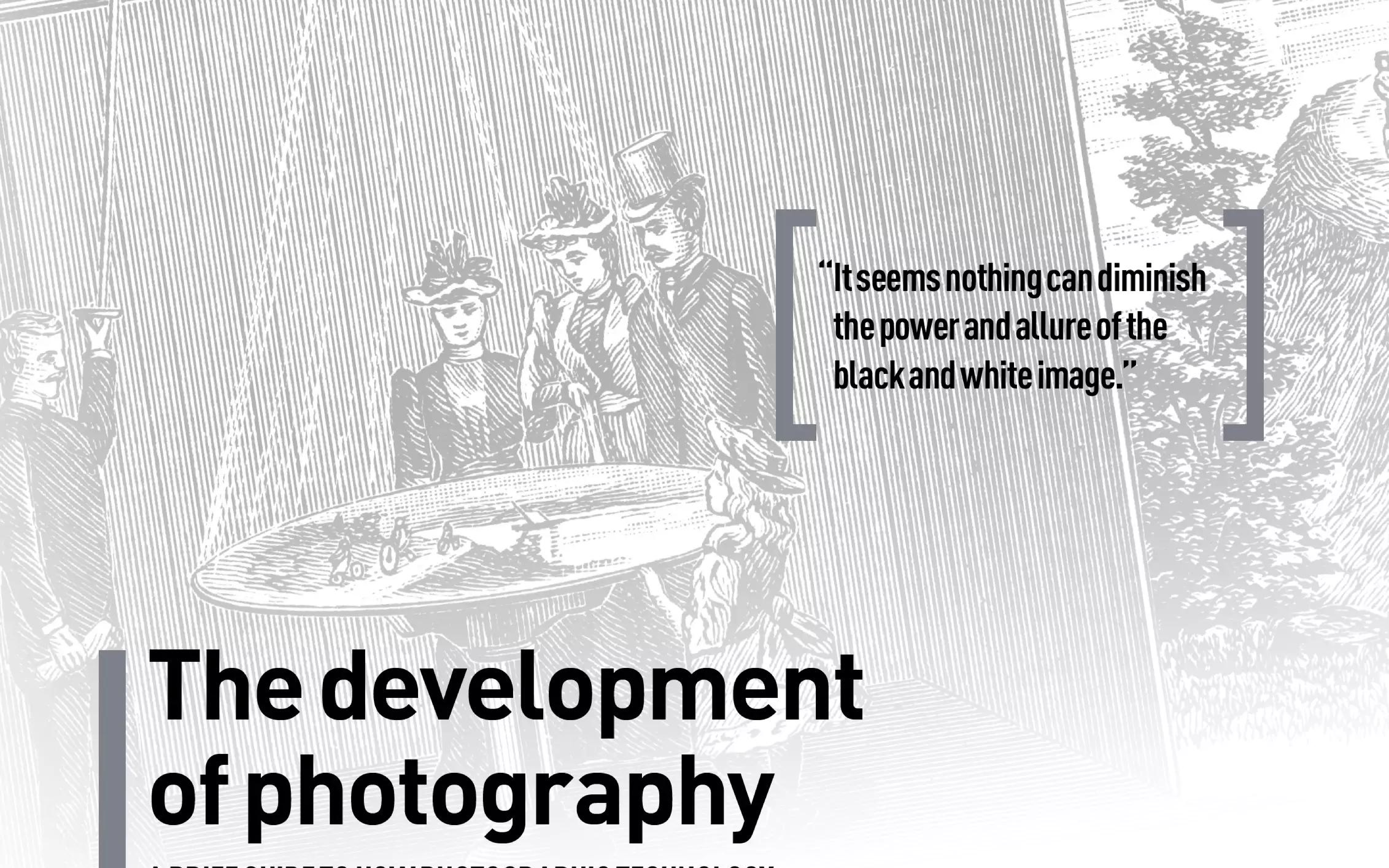
As the development of the processes continued and further innovations were made, camera exposures were reduced from days to hours, then to minutes, seconds, and eventually fractions of seconds. Black and white media became more and more accessible to the public, and the rest is history. ■

DAGUERREOTYPE

A French manufactured Susse Frères Daguerreotype camera, circa 1839.

Louis-Jaques-Mandé Daguerre, the creator of the first publicly announced photographic process, introduced worldwide in 1839.

> “You cannot talk about black and white photography without talking a little about the history of photography itself.”



The development of photography

A BRIEF GUIDE TO HOW PHOTOGRAPHIC TECHNOLOGY TRANSFORMED OVER THE AGES

> "It seems nothing can diminish the power and allure of the black and white image."

From its distant origins and development through the 1800s, right up to todays' most modern digital cameras and software, the black and white image has left an indelible legacy. It seems nothing can diminish the power and allure of the black and white image. Indeed, it can be noted that some of the greatest and most iconic images ever captured, were done through the medium of black and white.

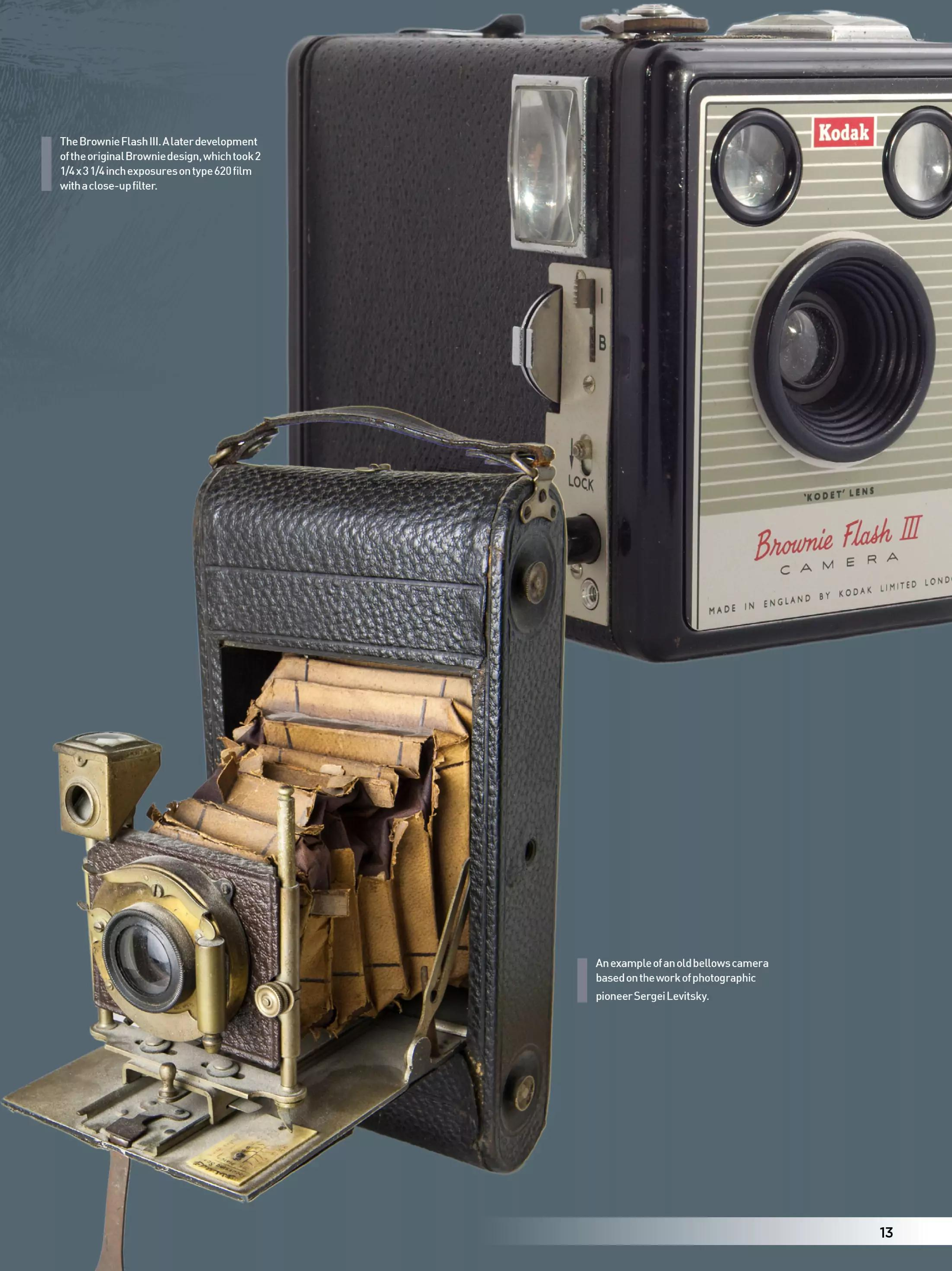
From a projected image appearing within a darkened room or box, to the daguerreotype, to gelatin-silver prints, to modern day advanced digital imaging, this whole technology needed a name. The term 'photography' is said to have been proposed by the scientist and noted astronomer Sir John Herschel. The word is derived from 'photos', meaning light, and 'graphe' meaning drawing. Hence 'drawing with light' was born.

At first, photography was regarded as a technological curiosity. A plaything for the lucky few. However, it very quickly became clear that photography was a unique method of capturing a moment of reality, removing it from the scene in which it was taken, and preserving it, much in the same way as an engraving or painting. A new form of communication was upon us.

In its earliest days, photography was limited by the processes and extremely long exposure times required to record static objects. Portrait sittings were a form of torture where the subject was seated and their head was clamped in order to make sure they did not move during the exposure. As the quality and speed of light-sensitive materials progressed, and exposure times were reduced to fractions of seconds, a popular form of photography emerged where subjects were captured in mid-air, jumping over a puddle, or down some steps.

In 1847, a new design of bellows camera by Sergei Levitsky made significant strides in improving the methods by which an image could be focused. It is generally held that his innovations had a major impact on camera design, a legacy that can still be seen today in the design of certain cameras. Levitsky is also notable for being forward-thinking in terms of retouching negatives and even using interchangeable decorative backgrounds in his shoots. He is even thought to have been the one who proposed the idea of using artificial lights to illuminate his subjects. Improved and refined over the years since its inception, photography saw a sea-change in its history around 1884 when George Eastman developed the dry-gel on paper and film systems, effectively rendering the photographic plate redundant. No longer did you need to carry around large, bulky equipment and boxes of photographic plates and harsh chemicals. When it hit the market in 1888, George Eastman's Kodak camera was advertised with the slogan 'you press the button, we do the rest'. Mass-market appeal was soon to follow with their next development. The new camera was called the 'Brownie' after a popular cartoon of the time and went on sale in 1900 for $1. The mass-market camera had been born with 150,000 sales in its first year. The public had a relatively easy and inexpensive way to experience photography for themselves. In 1901 the 'Brownie 2' went on sale. It produced larger photos and cost $2.

The continuing development of camera technology meant that, suddenly, many people were taking up the new art form and turning it into a business. Cameras were now also recording the realities of real-life world events. From the early days of photography, where camera crews recorded images from the American Civil War and the Crimea, to shots of Al Capone and the Hindenburg disaster, the camera was literally 'life through a lens'. ■


Kodak
I
B
LOCK
'KODET' LENS
Brownie Flash III
CAMERA
MADE IN ENGLAND BY KODAK LIMITED LOND

The Brownie Flash III. A later development of the original Brownie design, which took 2 1/4 x 3 1/4 inch exposures on type 620 film with a close-up filter.

An example of an old bellows camera based on the work of photographic pioneer Sergei Levitsky.

> “...black and white photography didn’t die off like the black and white TV; in fact it flourished.”

Introduction to black and white photography

YOUR JOURNEY INTO BLACK AND WHITE PHOTOGRAPHY BEGINS HERE

See the world in black and white as we introduce you to this timeless medium. At the dawn of photography as we know it, when everything was fresh and new, you had no choice but to shoot in black and white. Exposing images onto glass or metal plates gave way to the film and chemical process. It wasn’t until 1936 that Kodak gave the world colour photography. However, black and white photography didn’t die off like the black and white TV; in fact it flourished.

Whichever way you look at it, colour distracts you from the heart of what should make a great photo. Things like texture, composition, form, lighting and good old storytelling can be swamped and made inconsequential by colour. It’s not to say that colour is an invalid medium. Black and white photography can be seen as your interpretation of what is real, whereas colour can feel more like a record of reality. Shooting in mono is a medium that adapts very well to any kind of lighting situation. A shot taken on a cloudy day in colour feels dull; the same shot in mono feels moody. A colour image can be said to shout at you for attention, whilst a mono image speaks to you quietly in a more personal way. In the past, shooting in black and white was not seen as a limitation of the technology at hand, more a creative choice. The popularity of the medium today would suggest many still feel that way.

That may all sound a bit mystical, but in essence, many photographers would argue that black and white is probably the purest form of photography. We could fill an entire book with the intricacies of the black and white art first pioneered by great artists such as Ansel Adams, David Bailey, Richard Avedon, Man Ray and Cartier Bresson, but there are some simple tips that can help you on your way to discovering why black and photography is such a prized and creative visual medium. ■

Adams developed the Zone System as a way to determine proper exposure and adjust the contrast of the final print. The resulting clarity and depth characterised his photographs.

> "Shape defines how an object looks in its simplest form, as an outline or silhouette only."

Black and white core concepts

BEGIN TO TRAIN YOURSELF TO 'SEE' IN BLACK AND WHITE

You would imagine that the starting point would be to grab your camera, set its functions to black and white mode and start shooting. Many photographers always shoot in colour, in order to maintain as much tonal variation in the Raw image as possible; it just gives you more data to play with when it comes to the conversion process. A key word in the last sentence was 'Raw'. Always shoot in Raw format. You want to record as much scene data as you can without your camera trying to process the image for you. Although it might sound odd, you need to develop the ability to 'see' in black and white. A great visual aid is to shoot Raw, as we've said, but also to set your camera's picture style to black and white. It displays a black and white image on your LCD screen, but all the colour data is still there.

In its most basic form, a photo in black and white is made up of several components. Texture is a key ingredient; black and white loves texture. Harsh midday sun knocks everything flat, but the light glancing across a scene at sunrise or sunset makes texture pop out of the image.

Tonal contrast is another important consideration. A flat image with very little contrast will not necessarily convert into a great black and white shot without some serious post-processing; although in some cases, low contrast images can be very visually appealing if done well.

Shape defines how an object looks in its simplest form, as an outline or silhouette only. Images based on shape alone can be graphically intense. Form shows how something has depth and dimension. How an object is lit and casts shadows within its environment is the key to showing its form.

So, we have introduced you to some of the core concepts of black and white. Now, let's explore it in more detail. The following pages will guide you through the rich, creative techniques that will enable you to explore and enjoy the world of black and white. ■

YOUR ESSENTIAL GEAR GUIDE

CHOOSING WHAT GEAR IS BEST FOR YOU MAY BE DAUNTING BUT WE CAN HELP

Choosing a camera and lens for landscape or portrait photography may seem daunting at first because there is so much choice out there. Manufacturers inundate us with features and gadgets that they tell us make their camera so much better than everyone else's. The truth is, if you strip away all the marketing ploys and technobabble, there is a wealth of choice available for every budget and skill level.

The trick is cutting through all the hype. With a little research and keeping a budget in mind, there are some great camera systems waiting for you. So dive in and begin your photographic journey. The next few pages will give the low-down on the various camera systems out there. Here are some of the things you need to know. ■

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“With a little research and keeping a budget in mind, there are some great camera systems waiting for you.”

Cameras and lenses for landscapes

AN OVERVIEW OF SOME CAMERA SYSTEMS AND LENS TYPES

> "...a good wide-angle prime lens starts at around 14mm, capturing 114° field of view."

Advanced compact

Advanced compacts are designed for more experienced photographers, and offer superior photographic versatility and quality, as well as advanced creative features such as manual exposure controls, manual focusing, optical viewfinders and external flash connections. They are considerably more expensive than other types of compact, with prices ranging from around £300 to over £500. There are relatively few models in this category, with examples including the Olympus XZ-2, the Panasonic LX5 and the Canon PowerShot G15. There is an even more rarefied category that has appeared more recently of advanced compacts with larger sensors. Notable examples include the Sony RX1, the Fujifilm X series and the Canon G1 X Mk2. Prices range from around £500 to well over £2000.

Super-zoom

Super-zoom cameras used to be called "bridge cameras", since they were seen as halfway between compact cameras and DSLRs, but they have been falling out of favour over the past few years as zoom compacts and CSCs encroach ever further into their traditional territory. Nonetheless there are still a number of super-zooms on the market, and most of them are very capable cameras. They are usually quite large, with SLR-style bodies including big hand grips and electronic viewfinders. All offer powerful zoom lenses, some as much as 50x zoom, and usually include optical image stabilisation. Most also feature advanced HD video recording, often with stereo audio, and some also include advanced photographic features such as manual exposure and flash hot-shoes. Prices start at around £170, going up to nearly £400 for the more advanced models.

Compact system cameras

Compact system cameras (CSC) have interchangeable lenses, allowing photographers to choose a particular lens for a particular task, and also have a range of other accessories such as flashguns. The first compact system camera was the Panasonic Lumix G1, launched in 2008. They offer most of the versatility and image quality of digital SLRs, but in a smaller, lighter and in most cases less expensive package. They are a good choice for the hobby photographer who wants to extend their range, but who doesn't want to be dragging a heavy bag of full-sized lenses around. There is a wide variation in quality and capability between the various brands and models though, and prices range from less than £300 to over £1,200. Some ranges have only released a few extra lenses as yet, so it pays to do some homework and read product reviews before making your choice.

LUMIX
LEICA
POWER O.I.S.

FUJIFILM
SUPER EBC FUJINON LENS
50x

SAMSUNG
SAMSUNG LENS

CANON ZOOM LENS EF-S 10-22mm 1:3.5-4.5 USM
ULTRASONIC
EFS 10-22mm

The Canon EFS 10-22mm f/3.5-4.5 is a well-regarded wide angle lens for their cropped sensor range of DSLR's. It is equivalent to a 16-35mm full-frame lens.

Nikon 1 NIKKOR 10

Pancake lenses are designed to work with compact system cameras. This Nikkor 10mm lens is for the Nikon 1 V3 series camera. It is equivalent to a 27mm full-frame lens.

SIGMA
10-20mm 1:3.5 DC HSM

The Sigma 10-20mm f/3.5 wide angle zoom lens comes in both Canon and Nikon fit. This lens is equivalent to a 16-32mm full frame lens.

Digital SLR

The first digital SLRs (DSLRs) were introduced in the late 1990s, and were based on earlier film cameras. They have interchangeable lenses, and most DSLRs can use the same lenses as their older film-based predecessors with specialist lenses available for particular tasks. SLR systems are the choice of most serious amateur and professional photographers, and most offer superb image quality. Most DSLRs use a sensor size called "APS-C" but a few top-end cameras use larger "full-frame" sensors the size of a 35mm film frame. Prices start from about £400 for an entry-level APS-C model with a standard lens, while a top professional full-frame model such as the Canon 1DX costs £5,000 just for the camera body!

Canon
EOS 100D
CANON ZOOM LENS EF-S 18-55mm 1:3.5-5.6 IS STM

Lenses and the landscape

It is an accepted fact that if there is one lens that is inextricably linked to landscape photography, it is the wide-angle lens. It is often said that the lens influences the shot, not the camera. That is particularly true of the wide-angle lens in landscape photography. As the name implies, a wide-angle lens captures a very wide field of view. This is ideal for capturing the broad expanse of the scene the photographer is in. It also draws in the viewer of the final image in ways that a zoomed narrow-angle image does not. Good wide-angle lenses are also sharp and capture great detail.

With the advent of digital cameras and their various sensor systems, pinning down what a wide-angle lens is can be tricky. If we stick with full-frame photography (a sensor size of 36x24mm to match the old film negative size), then a good wide-angle prime lens starts at around 14mm, capturing 114° field of view, with a versatile wide-angle zoom lens giving you a range of 16-35mm, capturing around 98° field of view at the wide end. However, a lot of camera systems use different sensor sizes and this means you have to bear in mind what is known as the 'crop factor'.

What this means is that a 16-35mm lens designed to work on a 36x24mm full-frame sensor will project an image that is too large for an APS-C camera with a sensor size of just 22.2x14.8mm (a crop factor of 1.6). The APS-C sensor is capturing image data from a smaller area; the remaining image has been 'cropped' by the smaller sensor. The 16-35mm lens will appear to work as if it were a 25.6x56mm lens. The same lens on a micro four thirds camera would appear to be a 29.4x64.6mm lens. Because of lens mount systems, there are only a few lenses that can be used on different camera types. For instance, you can mount a Canon full-frame EF lens on one of their APS-C DSLR cameras, but you cannot mount a Canon APS-C EFs lens on a Canon full-frame camera.

If purchasing a compact camera with a non-removable lens, your choices for shooting wide-angle may be limited. A lot of compacts focus more on their zoom capabilities rather than their wide-angle ability. Most compact cameras offer no more than about a 28mm equivalent wide-angle. Image quality is also a factor, as the lenses on compact cameras are tiny in comparison to their DSLR counterparts, and this limits the maximum quality you can glean from the camera. It's not until you move up to the Compact System Camera bracket that you are able to swap lenses from a range that offer so-called pancake lenses around the equivalent 20mm mark as well as telephoto lenses. The general rule for landscapes is: wider is better.

The resolution of the sensor is an important aspect to remember when choosing your camera and lens setup. If you are only going to be posting images online at modest resolutions, you can easily use a 12MP camera and get great results. If you are more likely to be producing images for print and large format digital output, then you are going to be looking for cameras that can produce at least 21MP images or more. ■

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Cameras and lenses for portraits

AN OVERVIEW OF SOME PREFERRED CAMERA SYSTEMS AND LENS TYPES

Most of the cameras mentioned on the previous pages can be used for portrait work. To be honest, if you are always going to be shooting in natural light conditions and don't require large apertures and high ISO capability, then even the cheapest Compact System Camera will produce acceptable results. As you grow in confidence and experience as a portrait photographer, however, you may find that your once do-it-all compact camera may be lacking in certain abilities, and that non-interchangeable lens is limiting your creative choices. You'll feel like you've outgrown your camera and need to step it up. This is where the Digital SLR can help.

There are a number of major manufacturers such as Sony, Pentax, Olympus, Nikon and Canon. They produce a range of crop-sensor and full-frame DSLRs to suit every skill level and budget. It's fair to say that Canon and Nikon are the major players in this market; but when all is said and done, it is actually the lenses available for a camera system that will decide if it stands or falls. Also consider that camera bodies come and go, lenses stick around for much longer. This is as likely a reason for Canon and Nikon dominating the market as the choice of camera bodies. Both have a vast range of prime (fixed focal-length) and zoom lenses, as well as specialist lenses such as tilt-shift, macro and super-telephoto.

So let's assume that Canon or Nikon will be the two main contenders for your portrait photography equipment. The main question is: 'How pro do you go?' or 'How low do you go?' By pro, we mean getting your hands on some top-level equipment. You will need deep pockets for this, be in no doubt.

In the Nikon pro corner, camera bodies such as the D810 **[1]** weigh in at £2,300 for a 36MP DSLR, and their flagship D4s costs £4,500 for a full-frame 16 Megapixel camera. Canon offer you the full-frame EOS 5D Mark III with 22MP **[2]** at a cost of around £1,800. Its big brother, the EOS 5Ds has a whopping 50MP sensor and a price tag of £3,000. Canon's flagship is the EOS 1DX pro-body camera **[3]**. It is only 18MP but it is one of the go-to cameras for serious photographers and sports shooters, boasting an incredible 12fps and a £5,000 price tag. All of these cameras are packed with technology and offer superb image quality, if you can afford it.

If that seems a little too rich for your blood, then consider more entry levels DSLRs. There are plenty to choose from. From Nikon we have the D7100 **[4]**, a 24MP all-rounder costing £750. Also consider the very cost-effective D3200 **[5]**, a 24MP camera which is £350 with an 18-55mm kit lens. Canon's offerings in this area include the EOS 100D; an 18MP camera billed as the world's smallest DSLR, it has a small price at just £350 with a kit lens. Further up the scale is the EOS 70D, a 20MP camera with a huge amount of features ideal for the enthusiast at £780 **[6]**.

The lenses required for portrait work, like landscapes, are generally fairly specific. Where a short focal-length wide-angle is much sought after for landscapes, a longer prime lens is the order of the day for great

> “…consider that camera bodies come and go, lenses stick around for much longer.”

Nikon
Nikon
D3200
AF-S DX NIKKOR 18-55mm 1:3.5-5.6G VR

5

Nikon
D7100

4

Canon
EOS 70D
CANON ZOOM LENS EF-S 18-135mm 1:3.5-5.6 IS STM
φ67mm

6

7

CANON LENS EF 85mm 1:1.2 L II USM
85mm

8

CANON LENS EF 50mm 1:1.2 L USM
50mm

9

Nikon
AF-S NIKKOR 50mm 1:1.8G

10

Nikon
AF-S NIKKOR 85mm 1:1.4G

portraits. Lenses around the 17mm - 24mm equivalent mark are fine for environmental portraits where you are showing your subject amongst their surroundings, but if you used that focal-length close-up for a head and shoulders photo, there would be severe distortion of the facial features, the nose would appear larger in relation to the rest of the face and would not be flattering to the subject.

For more intimate portraits a lens with a focal-length of at least 50mm is required. Even at 50mm, there will be some distortion if you get in very close. To reduce distortion further, you need a lens of 85mm, 100mm, even 135mm and 200mm. Prime lenses tend to be less expensive than their zoom-lens siblings; they also benefit from wider apertures, perfect for isolating your subject against a distracting background. By using a large aperture of f/2.8 to f/1.4, your backgrounds will be soft and out of focus, so your attention is centred on your subject. As with all things, prime lenses vary in price. For example, a professional Canon 85mm f/1.4 lens **[7]** can be upwards of £1,800, but there is a more modest 85mm equivalent using cheaper build materials that only costs £250. The Canon pro series 50mm f/1.2 lens is £1,000 **[8]**, but its standard f/1.8 counterpart is only £100. Image quality may differ, but so does the difference in price. The Nikon AF-S 50mm f/1.8 lens is a very reasonable £130 **[9]** with great image quality and its 85mm sibling is £340 **[10]**. It’s something you’ll have to weigh up when it comes to purchase time.

It’s not to say that zoom-lenses are a complete no-go. A good Nikon 55-300mm f/4.5 zoom will only set you back £260. Choose a compatible Tamron 18-200mm f/3.5 lens and you are only looking at £120. Photographers will tell you that a fixed focal-length prime lens is better because it motivates you to have to move around to get different views, but a good zoom lens is great for instant reframing and cropping of your shot. It comes down to your personal financial and creative preference. ■

Keep things stable with a good tripod

ONE OF THOSE ESSENTIAL ADDITIONS TO YOUR GEAR LIST

If you want to take better photographs, the single most useful accessory you can buy is a good quality tripod. By using a tripod you can completely eliminate camera shake, the number one cause of unsatisfactory photos. A tripod is also essential when using long exposures, powerful telephoto lenses or when shooting in low light conditions.

There are many different makes and types of tripod, from cheap budget models costing under £15 up to professional-grade tripods made of carbon fibre and magnesium alloy which cost hundreds of pounds. They come in all sizes too, from pocket-sized mini-tripods suitable for small compact cameras, to heavy studio tripods mounted on castors. The type that you should buy depends on how much you want to spend and what sort of photography you're going to use it for.

Key factors when choosing a tripod are rigidity and carrying weight. The tripod you choose has to be able to support the weight of your camera and hold it perfectly still. Some cheaper tripods with plastic heads and thin aluminium legs are too 'bouncy' to be used with anything heavier than a compact or light superzoom. Set the tripod up and press down on the top of it. If it flexes by more than a few millimetres it's not going to be stiff enough to support a heavy camera. ■

> "They come in all sizes too, from pocket-sized mini-tripods suitable for small compact cameras, to heavy studio tripods mounted on castors."

Pocket tripods

These are miniature tripods designed for small compact cameras, and are ideal for table-top use or for positioning your camera for a self-timer group shot. They're small enough to slip into a jacket pocket or into your camera pouch. There are several different types, including ones with telescopic legs, ball or pan-tilt heads, and even flexible legs. One unique and extremely versatile design is the Joby Gorillapod, which can grip onto almost any object or work as a tripod.

Travel tripods

Travel tripods are designed for general use where low weight and portability is an important factor. They are made of lightweight materials, usually aluminium or carbon fibre, and are suitable for most types of camera from compacts up to mid-range DSLRs, although not with large telephoto lenses.

Velbon Sherpa 555R

Budget tripods

There are many cheap tripods on the market, many costing less than £20. There are some very good ones, such as this Velbon DF-41, but many lack the rigidity to support heavier cameras and lenses.

Velbon
DF-41

Professional-grade tripods

Top quality tripods are made from high-tech materials like carbon or basalt fibre, with magnesium alloy fittings and superior workmanship. They offer the best rigidity and support for even the heaviest cameras and lenses, but they are very expensive. The Gitzo Mountaineer Series 1 seen here costs over £800.

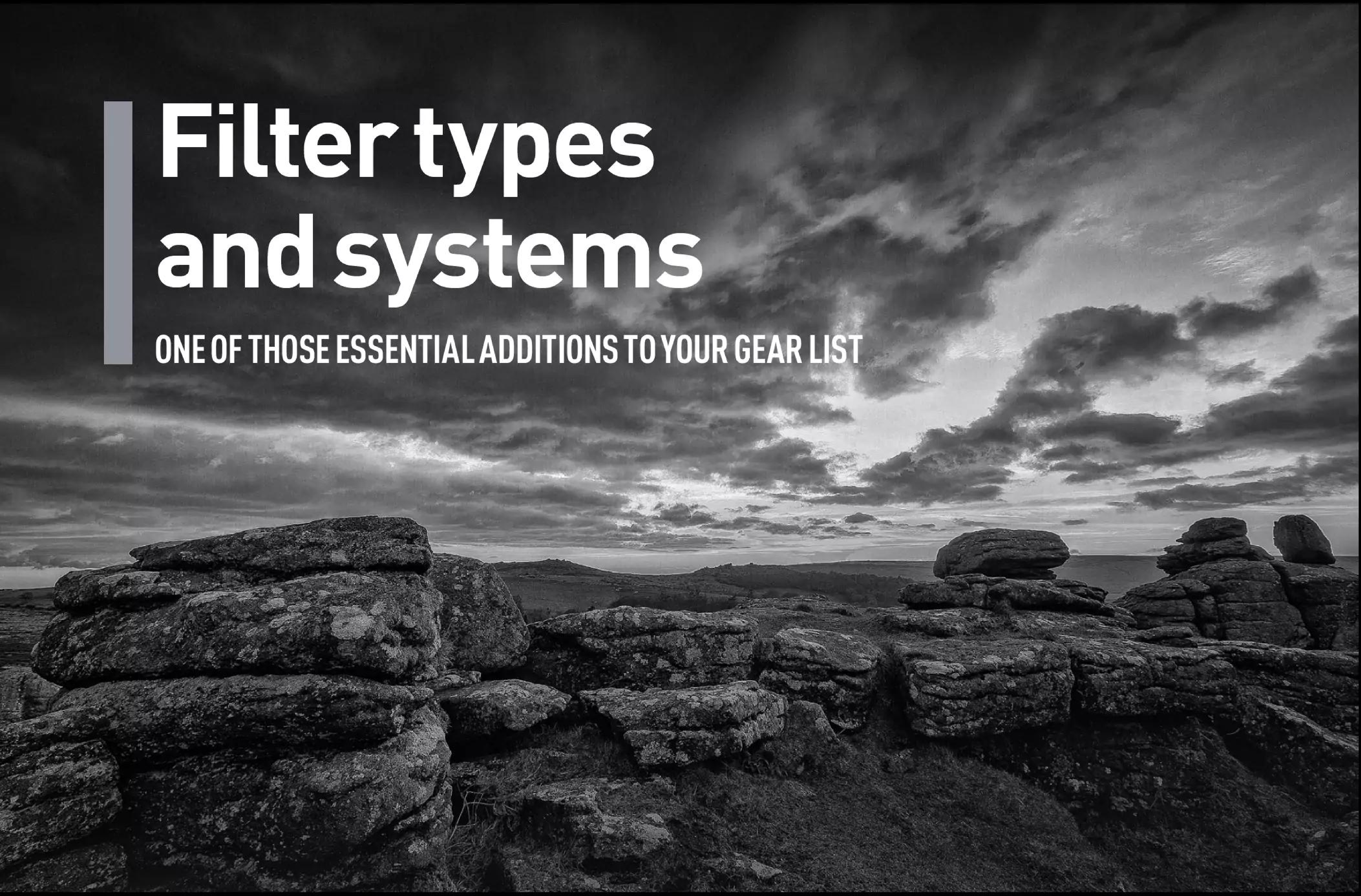
Monopods

If carrying a tripod around is inconvenient, a good alternative is a monopod, essentially a single telescopic support leg with a camera mounting on the top. Obviously they don't provide the stand-alone support of a tripod, but they can be a big help in reducing camera shake. They are also handy for shooting in confined positions where a tripod won't fit, such as in a crowded space.

Velbon RUP-L43

Filter types and systems

ONE OF THOSE ESSENTIAL ADDITIONS TO YOUR GEAR LIST



While it's quick and easy to add filters to an image during editing, you can often get better results by adding filters to the camera before taking the photo.

Filters have been an essential part of photography since its very beginnings. Used creatively, they can improve a hard-to-capture scene, add an extra artistic element to an image, or just provide a bit of fun. Modern digital photo editing has provided an almost too easy method to add filter effects to an image after it has been taken; but some effects are better when applied by actual physical filters fitted to the camera when the photo is taken, and this is particularly true with black and white photography. Let's take a look at some of the different types of filter, and how they can help to improve your photos.

Filter systems

There are two main types of camera-mounted photographic filter: screw-on circular filters that are attached directly to the front of the lens; and Cokin-type square acetate filters that are mounted in a special holder.

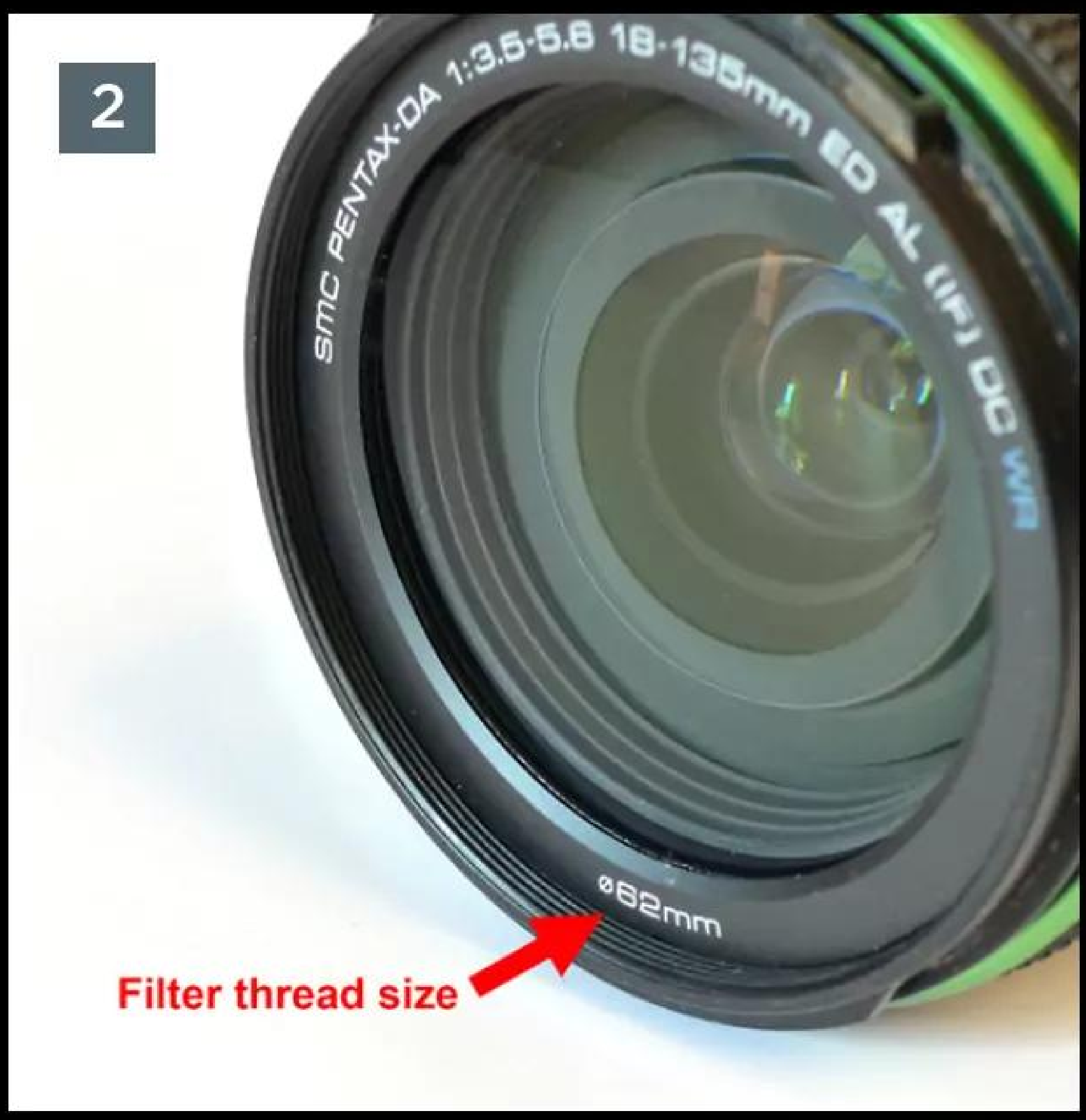
Circular screw-on filters

Popular with professionals, circular filters have advantages and disadvantages **[1]**.

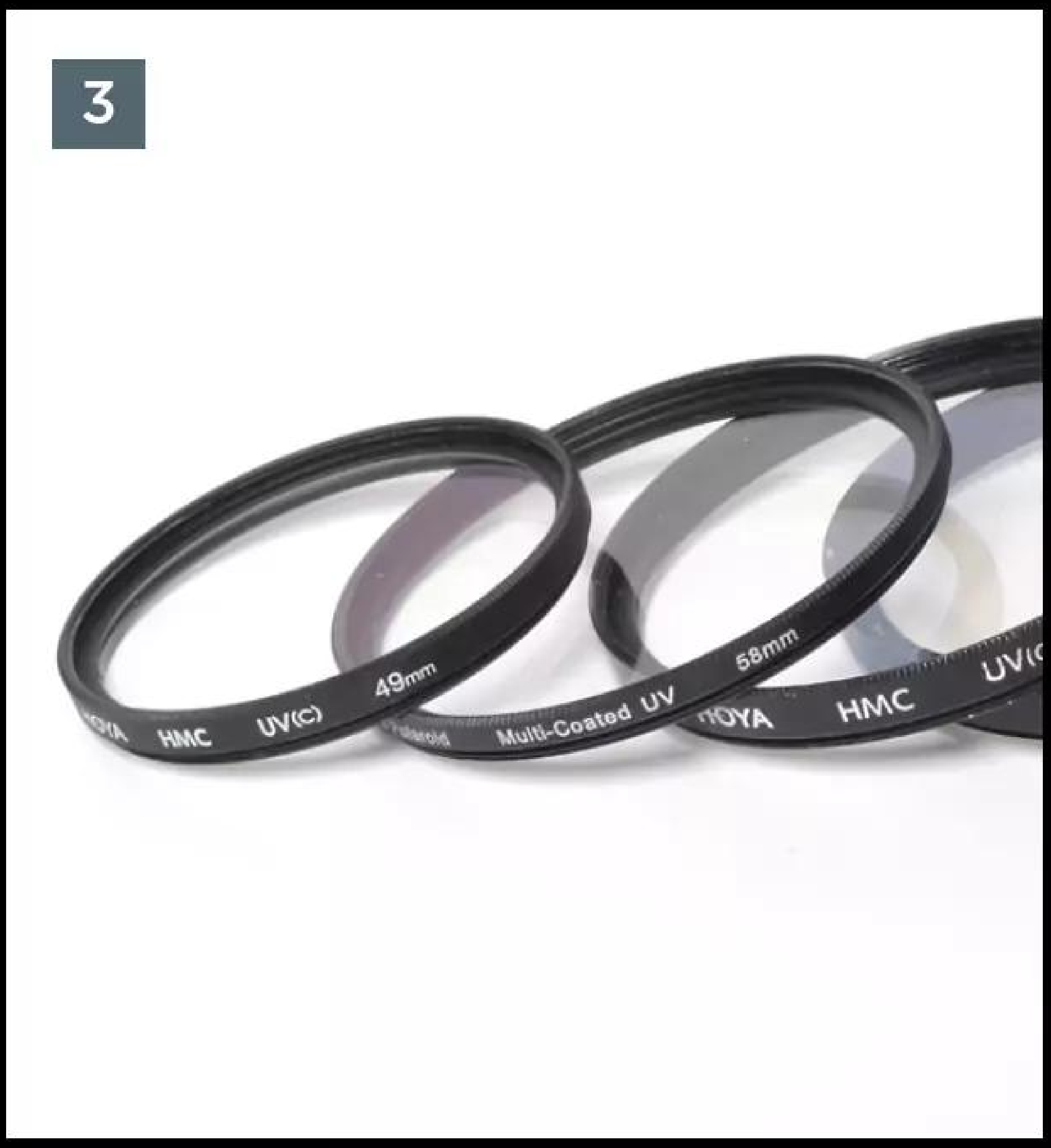
1

All DSLR cameras, most compact system cameras, and many high-end compact cameras have the ability to mount filters. If you're not sure about your camera, take a look at the front of the lens. If you can see a screw thread around the inside of the front edge of the lens barrel then you can use filters, because it is to this thread that they are attached. To find out what size of filter you should use, look for a number next to the standard symbol for diameter, a circle with a line through it, usually marked on the front ring of the lens bezel. This is the filter thread diameter in millimetres **[2]**.

2



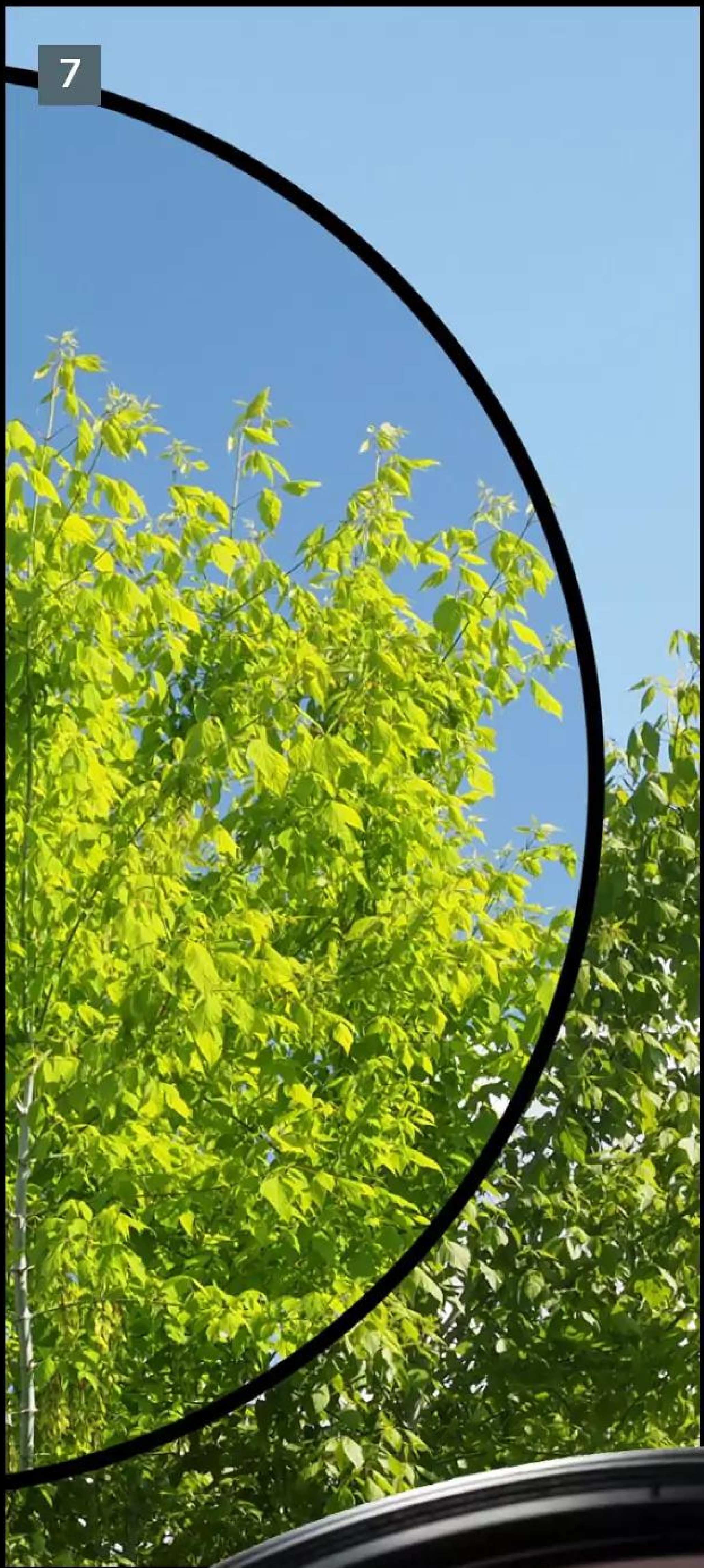
Many photographers will keep what is commonly called a "UV" or "Skylight" filter permanently attached to the front of all of their lenses. Photographic film is particularly sensitive to ultraviolet light, so a UV filter is intended to prevent overexposure by blocking the higher levels of ultraviolet light present at higher altitudes. Since it is completely transparent to all other wavelengths it will have no other effect on your pictures, especially since digital cameras don't suffer from excess UV sensitivity; but the UV filter does also serve the extremely useful role of protecting the delicate surface of your lens's front element from accidental damage and greasy fingers **[3]**.


3

4

5
PENTAX
HOYA HMC UV(C)
HOYA

6
UV 52mm FILTER


7

8
HOYA
PROND10

Circular filters

Circular filters have some advantages, but there are also a number of drawbacks.

Good quality circular filters are usually made out of distortion-free optical quality glass, and have similar coatings to the front element of your lens, reducing problems such as lens flare. They are manufactured to a high standard, and any colour tints will be optically pure and even.

Because they attach directly to the lens without needing an adaptor, individual filters are less bulky and cumbersome than a complex acetate filter-holder system; and you can screw several same-size filters together, further reducing the space they take up in your kit bag **[4]**.

The downside of circular filters is that they are expensive, with a simple UV filter costing between £20 and £50 depending on size, and some of the more exotic types of filters costing several hundred pounds each. The problem is that different lenses have different diameter filter threads, so if you have a system camera and a selection of lenses you will probably end up buying the same filter in several different sizes, which can become very expensive indeed. Buying just basic UV and polariser filters for all of the lenses in an average enthusiast's kit can represent an investment of hundreds of pounds. Add a few neutral density and colour correction filters and you're not going to get much change out of a grand **[5]**.

Another problem with circular filters is vignetting, especially on wide angle lenses. It is possible to stack more than one filter on a lens to produce multiple effects; but if you add more than one to most wide-angle lenses, the filter rings will impinge on the corners of the frame.

Types of circular filter

There are several types of circular filter that any photography enthusiast should have in their kit bag.

UV or Skylight filter

As we've already discussed, UV filters are mainly used to protect the front element of your lens, but they also cut down haze caused by UV when shooting with film. Buy one for every lens in your kit and leave them on there **[6]**.

Circular polariser

A circular polariser is used to reduce reflected glare and improve the contrast and saturation of colours. It's used more in colour photography than black and white. Buy one for your landscape lens **[7]**.

Neutral density filter

Neutral density filters are used to reduce the light entering the camera. They're useful for many reasons, such as using wide apertures on long-exposure shots, or reducing sun glare **[8]**.

Colour correction filter

These are the filters you'll use most often in black and white photography, to lighten or darken the shade of various tones in the final image **[9]**. ■

9
HOYA 62mm 80A
HOYA 62mm R(25A) JAPAN
HOYA HMC 62mm O(G)

The Cokin creative filter system

A COMPLETE FILTER SYSTEM FOR THE CREATIVE PHOTOGRAPHER

The Cokin Creative Filter System

A more affordable alternative to circular filters is the versatile Cokin system, which uses square acetate filters and a special screw on holder **[1]**.

Invented by French photographer Jean Coquin and introduced in 1978, the Cokin Creative Filter System has grown to become the most popular filter system in the world, and has spawned many imitators who make filters and other accessories that are compatible with the Cokin system.

The idea is very simple; rather than buying separate filters for every lens, the Cokin system has a single filter holder into which rectangular plastic filters are slotted. The filter holder is attached to the front of the lens by an adaptor ring which has a thread to match the diameter of the lens's filter thread. Thus, when you buy a new lens with a different thread diameter, all you have to do is buy an adaptor ring for it and you can carry on using all your filters with the new lens **[2]**.

Cokin make two main series of its filter system. The A-series is smaller and cheaper, and is intended for amateurs. It can accommodate lenses with a maximum filter thread diameter of 62mm, and the filters that slot into it are 67mm wide. Professionals and people with larger lenses will opt for the more expensive P-series, which can be used with filter thread diameters up to 82mm, and uses filters that are 84mm wide.

There are also a few bigger variants for large-format and movie cameras, but the A and P series are the ones that you're most likely to encounter **[3]**.

There are over 140 filters available for either system, including polarisers, graduated, pastels and diffusers, warm-up filters, colour correction filters, centre-spots and a wide range of optical effects, such as starbursts, multi-image, close-up, rainbow, double exposure etc. Official Cokin filters are made from a special polymer called CR-39, sometimes advertised as "organic glass", which is shatterproof, scratch resistant and optically perfect. There are many third-party filters available that will fit the Cokin system, but their quality may not be as high as the official branded products.

Pros and cons of the Cokin Creative Filter System

The Cokin system doesn't have many disadvantages, but it's not completely perfect.

The main advantages of the Cokin system are its comparatively low cost and its extreme versatility. A basic P-series grad filter starter kit, consisting of the filter holder and three neutral-density grad filters, costs less than £40; the adaptor rings to attach the holder to your lens only cost around £13 each; and individual P-series filters cost between £15 and £20 each, so it's possible to buy an entire system of Cokin filters for less than the cost of some single circular screw-on filters. With over 140 filters and effects to choose from, including polarisers, starbursts, soft focus effects and close-up lenses you can create virtually any filter effect you like **[4]**.

There are only two small disadvantages to the Cokin system. First, the optical quality of the polycarbonate filters is not quite as good as the best optical glass circular filters, although you'd need an expert eye to tell the difference; and second, the filters are more prone to picking up scratches than are glass filters. However, since Cokin filters are so cheap to buy, if you scratch one so badly that it can't be used you can just replace it.

There are a lot of third-party manufacturers that make plastic filters which are designed to be compatible with the Cokin system, but the quality of these is very variable and some are distinctly second-rate. Although you might be tempted when you see a 24-piece filter kit for sale on Amazon for less than £30, these cut-price kits are best avoided. The optical quality and colour purity of the filters won't be as good as the genuine Cokin filters, and they might not fit your Cokin filter holder properly. Some of the third-party filters are a lot thinner than the Cokin ones, and may slip out of your holder.

Common types of Cokin filter

The versatile Cokin system has a lot to offer for photography enthusiasts, but here are the essentials.

Neutral density grads

The Cokin system is best known for its graduated filters, and the most popular are the neutral density grads. Use them to darken skies and balance exposure **[5]**.

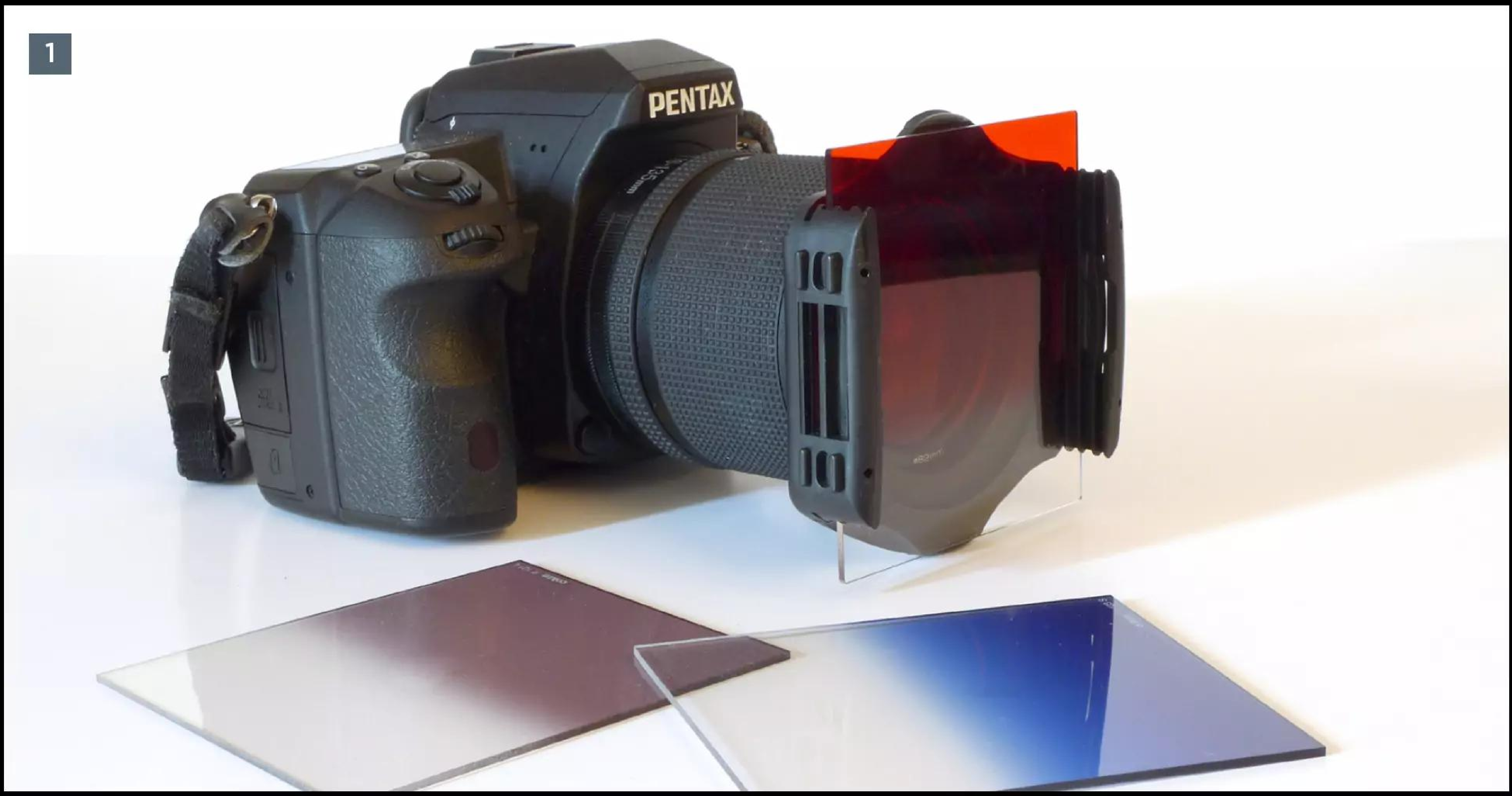
Star filter

Star filters use a diffraction grating to produce distinctive rays around any point light source. They can be quite beautiful in the right shot, but don't overuse them **[6]**.

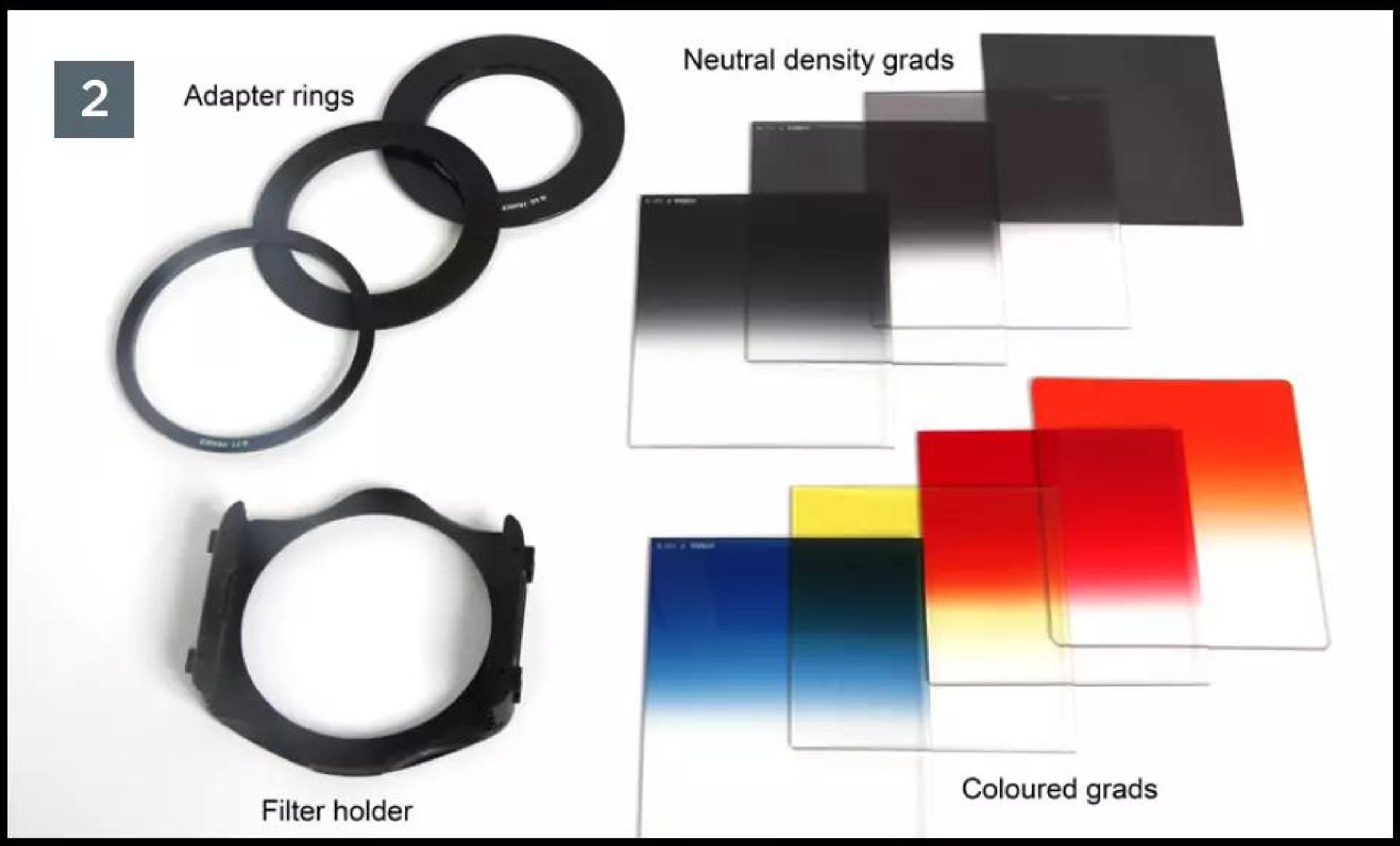
Tobacco grad

Tobacco grad filters can add a wonderful stormy look to almost any cloudy sky, and also work well with sunset shots **[7]**.

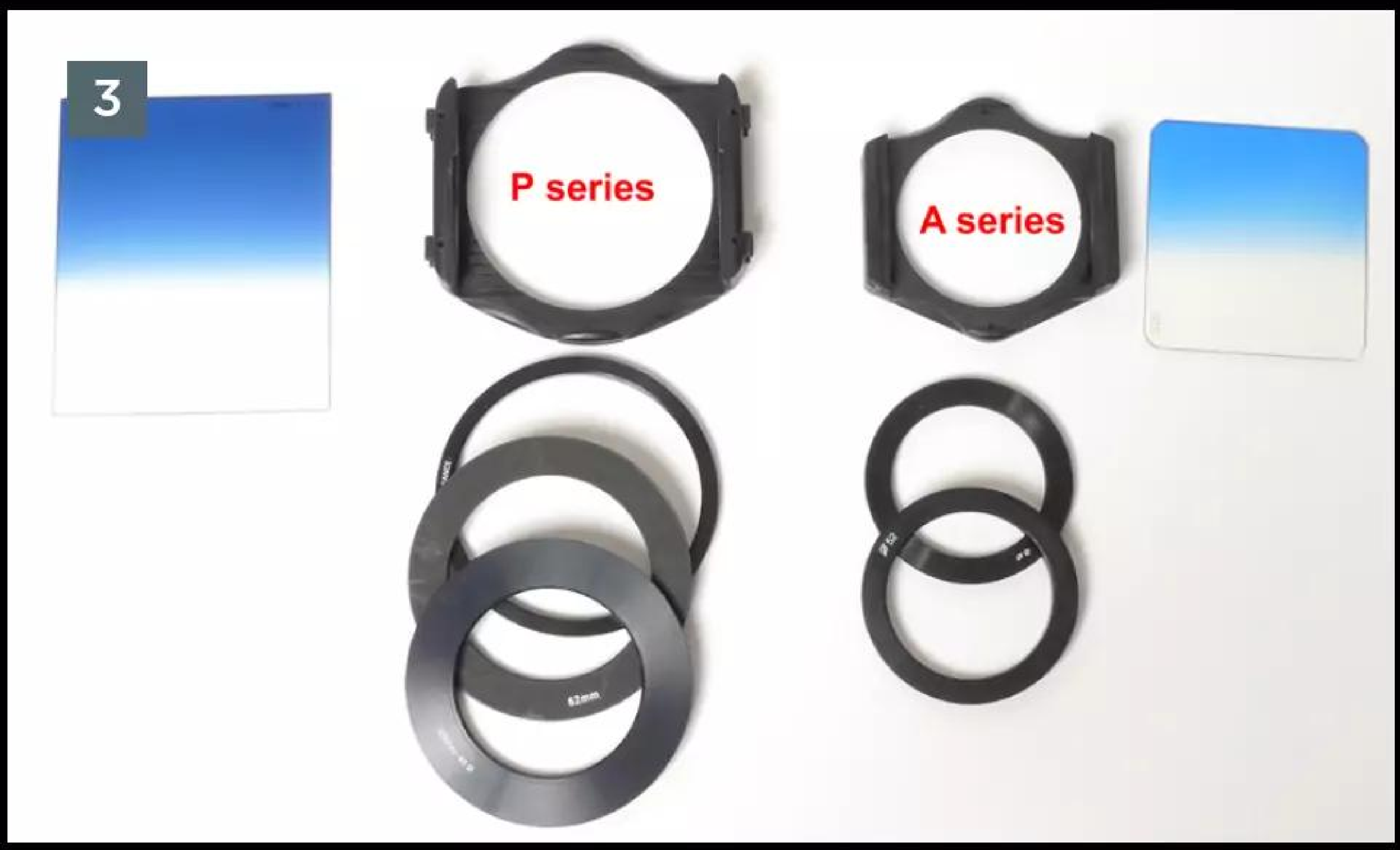
1


PENTAX

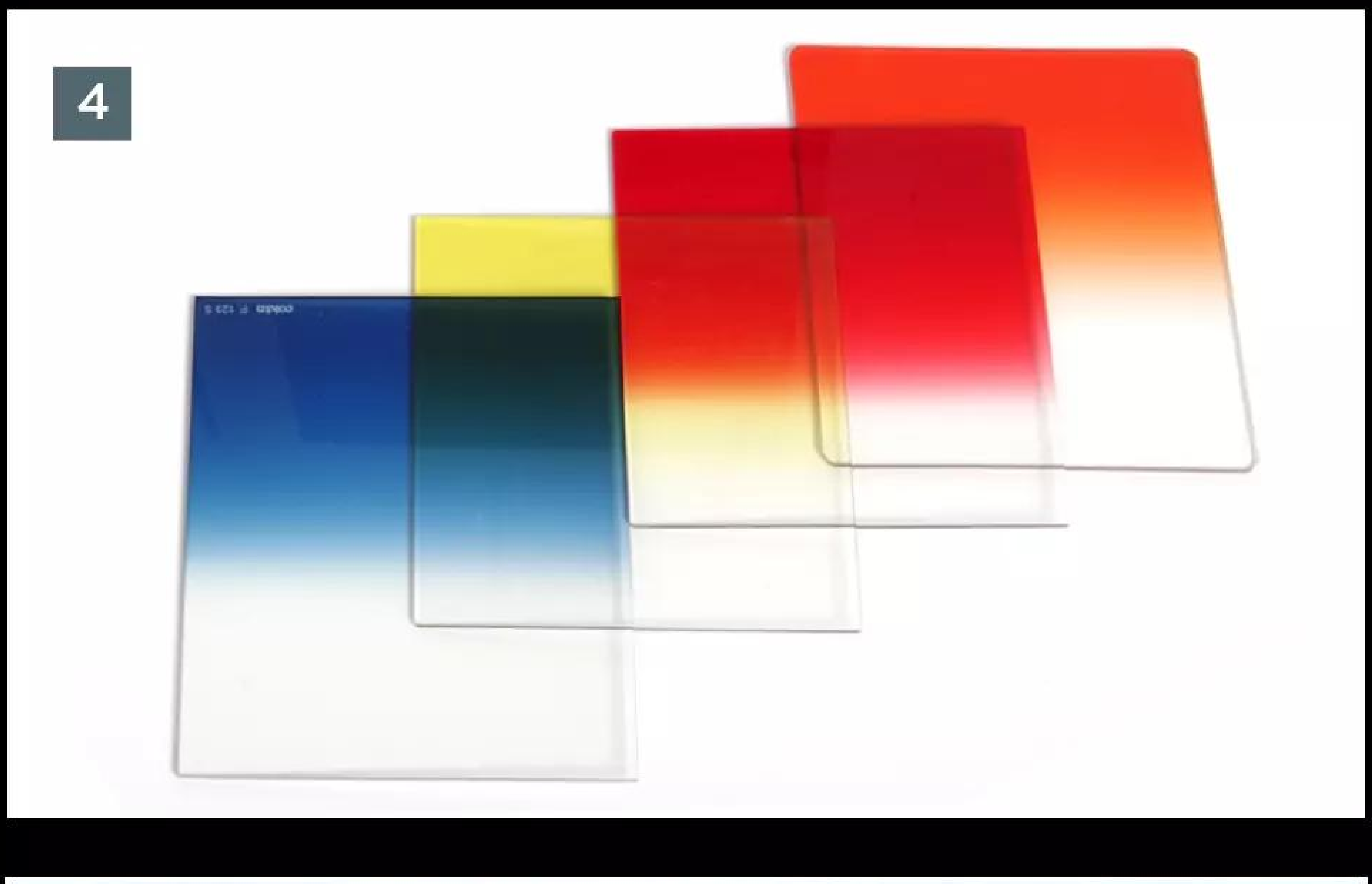
2


Adapter rings
Neutral density grads
Filter holder
Coloured grads

3


P series
A series

4



5

6

7

Using filters for black and white

SEE THE EFFECTS OF DIFFERENT COLOURED FILTERS

Even though the final result is a colourless monochrome image, colour filters have a very useful role in black and white photography. Regardless of whether you opt for circular screw-on filters or the Cokin Creative Filter system, there are certain filters that you'll want to have with you when you shoot in black and white, and ironically these are colour correction filters.

Even though the final image will be in colourless monochrome, the scene you're photographing is in colour; and by using coloured filters it is possible to alter how different colours will appear in the final image. For instance, if you shoot through a red filter, anything in the scene that is coloured red will appear brighter, while anything that is coloured blue or green will appear darker. Many photographers shooting landscape scenes in black and white will use this effect to make clouds stand out more by darkening the blue of the sky. Most photographers who regularly shoot in black and white will have red, blue and green colour correction filters in their kit, and probably yellow and orange as well.

The main thing to remember about the effect that a filter will have is this: the colour of the filter is the colour of the light that it allows to pass through, so that colour will appear lighter. The opposite colours are the ones that are blocked, and will appear darker.

Our example is a nice shot of some beach huts at Exmouth **[1]** that includes all of the additive primary colours: red, green and blue. If we shoot the same scene in unfiltered black and white it looks like image **[2]**:

As you can see there's not much difference in shade to differentiate the various tones in the image. Let's take a look at what happens to this same scene when we shoot it through different coloured filters.

Red filter

Shooting with a red filter over the lens **[3]** blocks most of the green and blue light wavelengths from passing through, so red tone will appear much brighter, while green and blue tones will appear much darker **[4]**.

When we apply a red filter to our beach hut scene, we see the result in image **[5]**:

As you can see, the blue and green doors are now a dark grey, and the blue of the sky is also much darker, making the clouds stand out. Yellow and orange filters have a similar effect, although with a slightly different look.

Green filter

Shooting the scene using a green filter **[6]** has a completely different effect. It blocks most of the red and blue wavelengths, making them appear darker, while making green tone appear much brighter **[7]**.

Shooting the same scene through a green filter makes it look like image **[8]**:

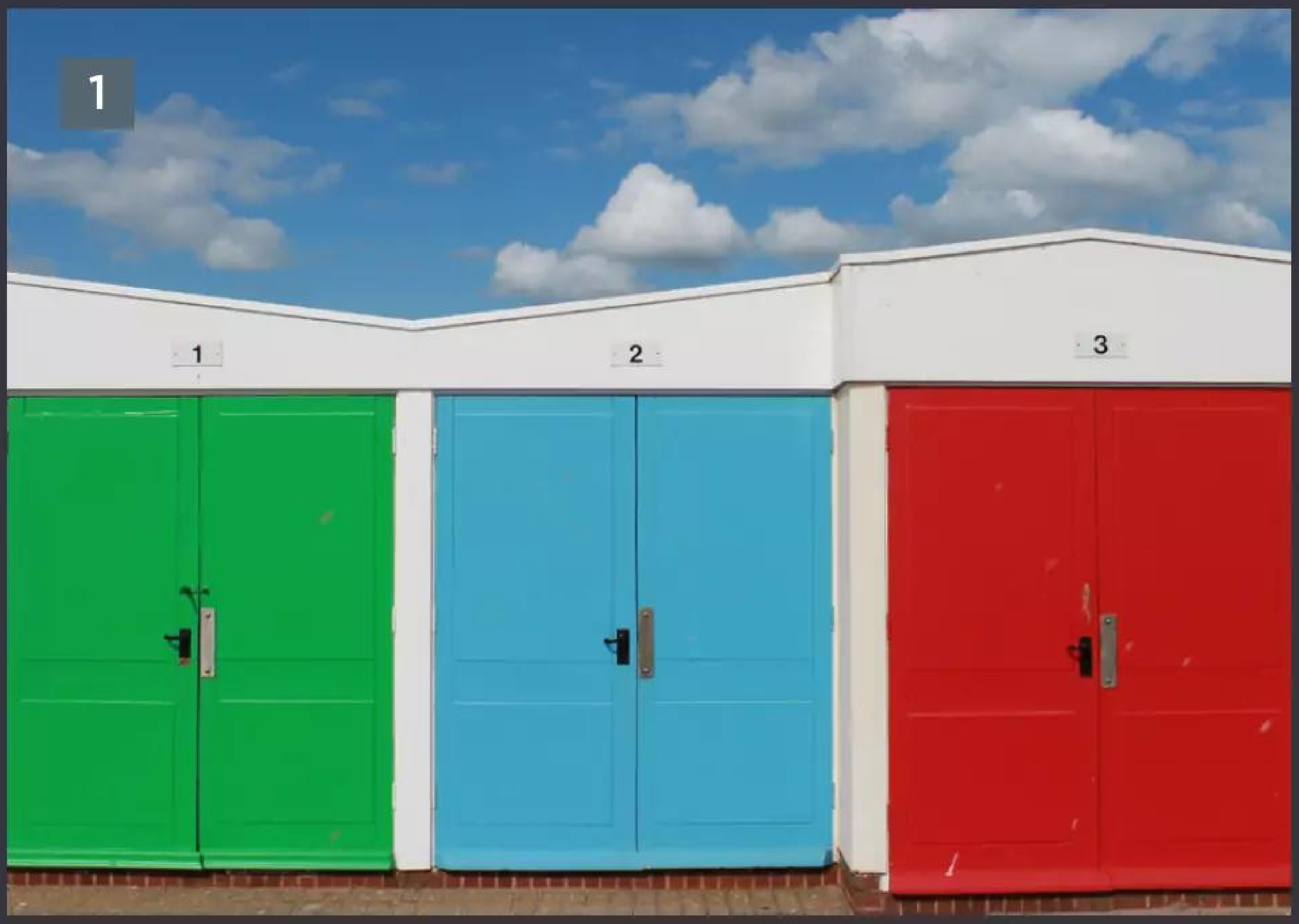
You can see that the red door is much darker, while the blue door is only a little darker. This is because the blue paint isn't quite pure blue, and has some green tones in it. The sky is also a little darker. The green door is much lighter, and you can use this effect to make plants and trees stand out in a scene.

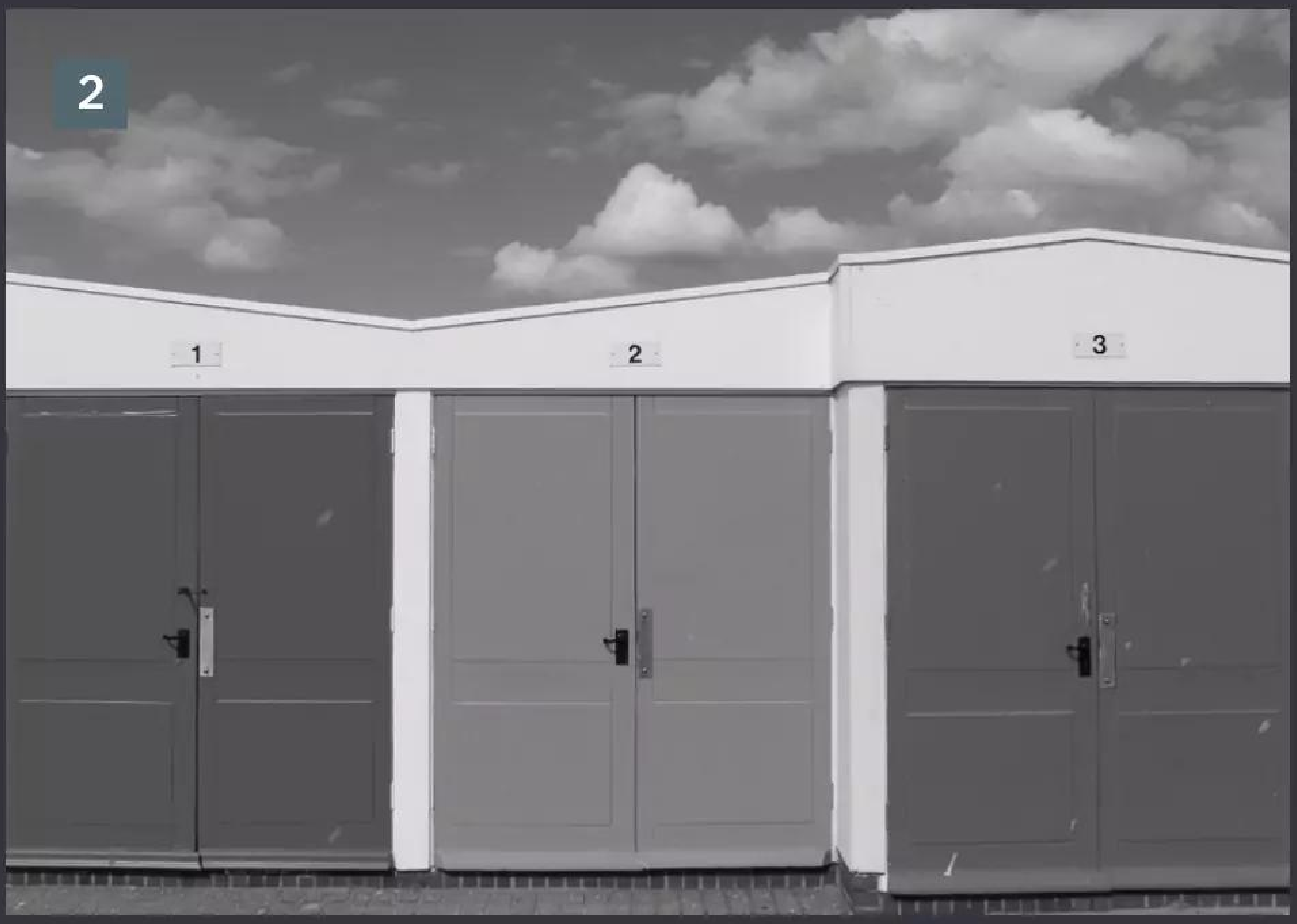
Blue filter

A blue filter **[9]** has yet another different effect. This time the blue tones are allowed through, and will be brighter, while the red and green tones are blocked by the filter and will appear darker **[10]**.

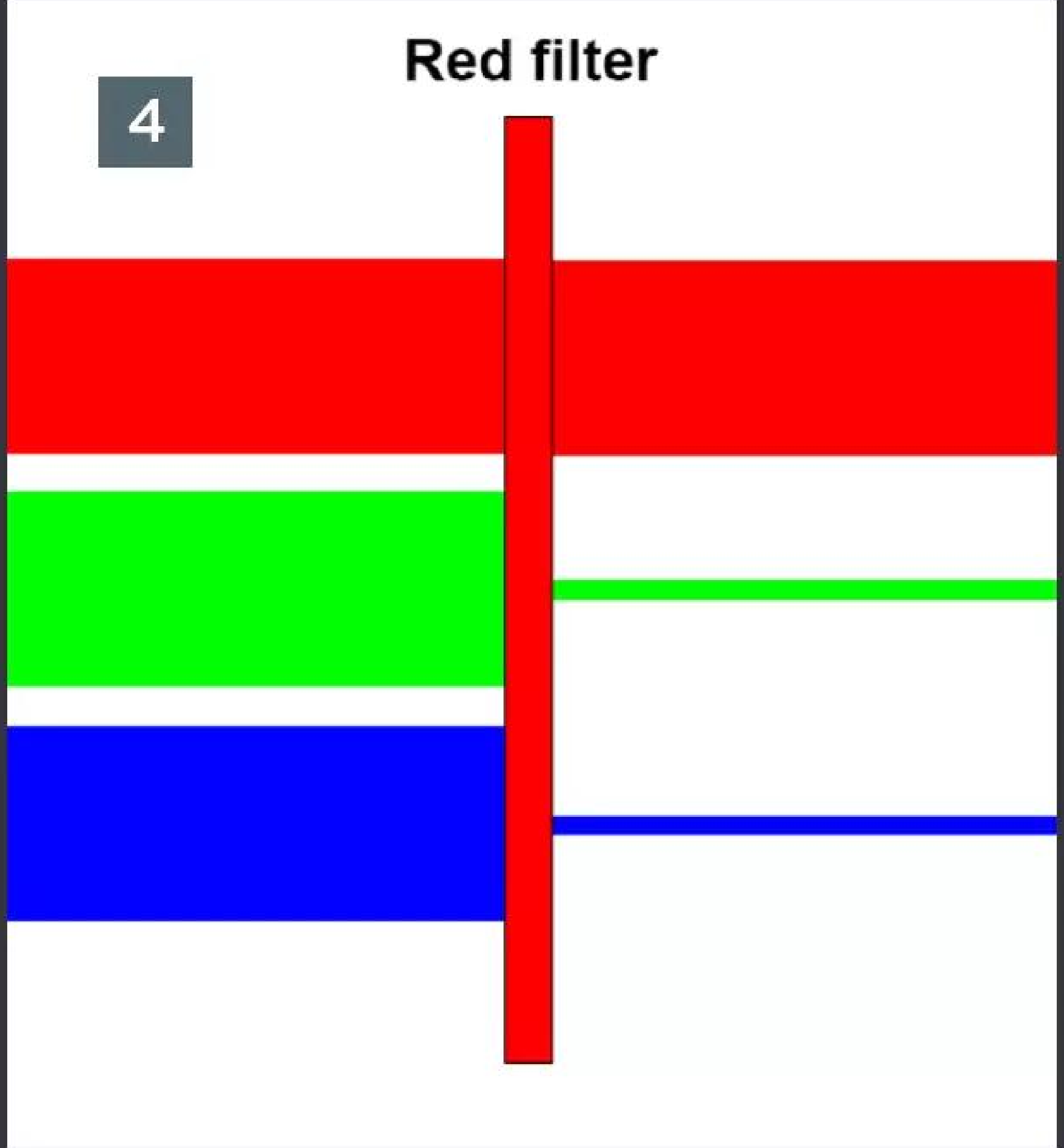
Shooting the same scene through a blue filter produces theresult in image **[11]**:

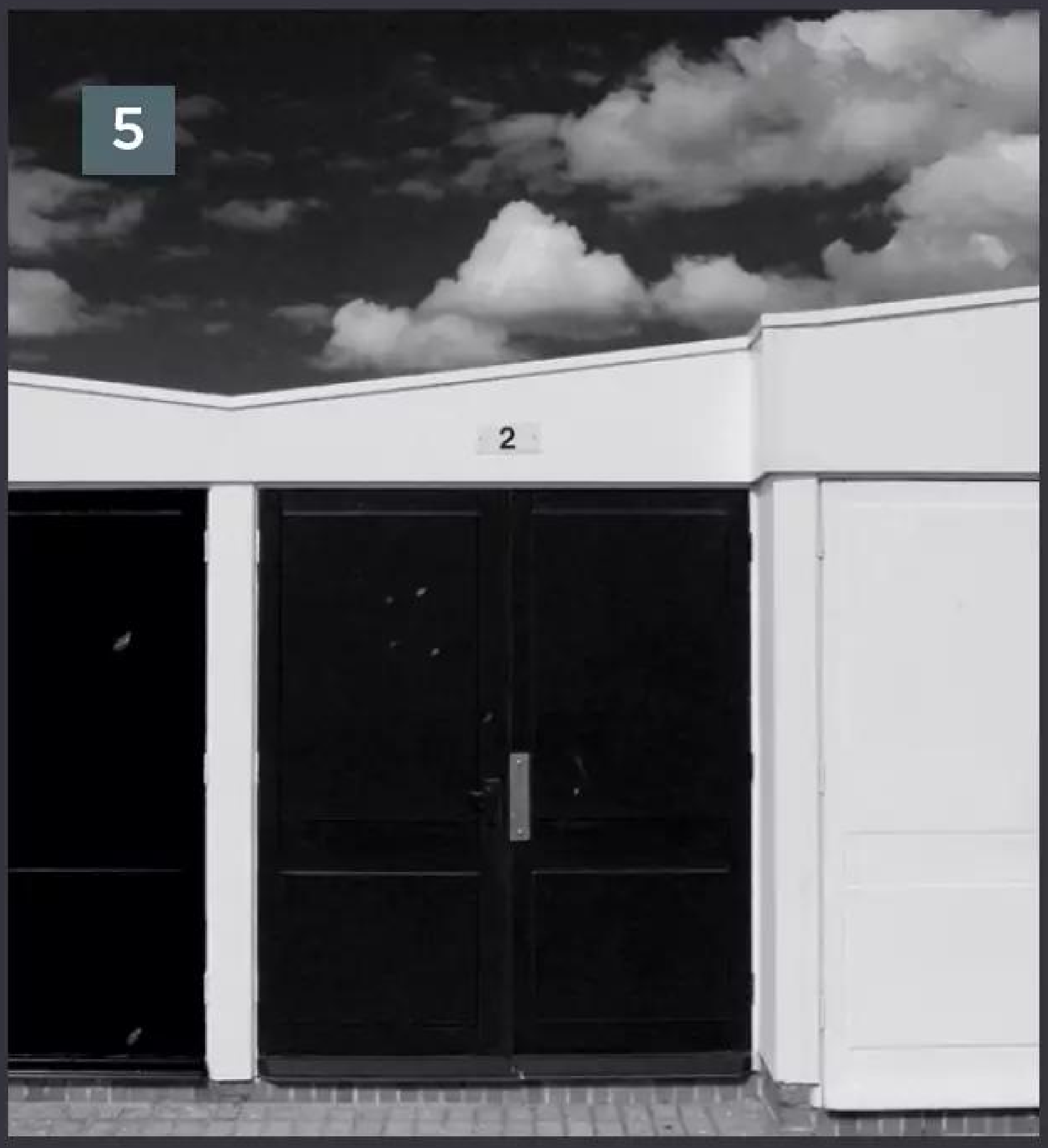
This time the blue door is the lightest, while the green and red doors are much darker. The blue of the sky is also much lighter, making the clouds stand out less. While not a desirable effect for landscapes, a blue filter can be used to enhance contrast in other types of shot.


1
1
2
3

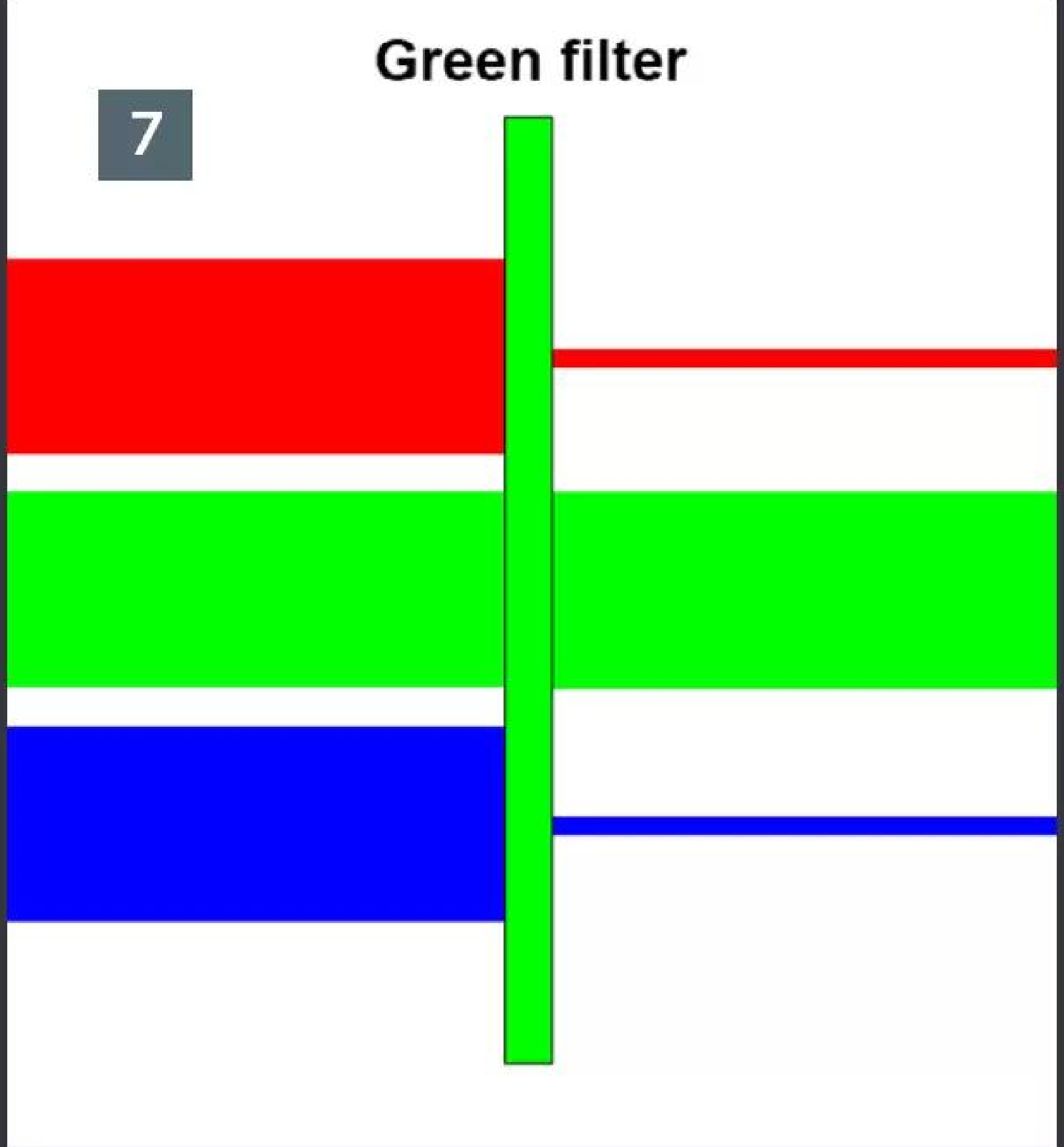

2
1
2
3

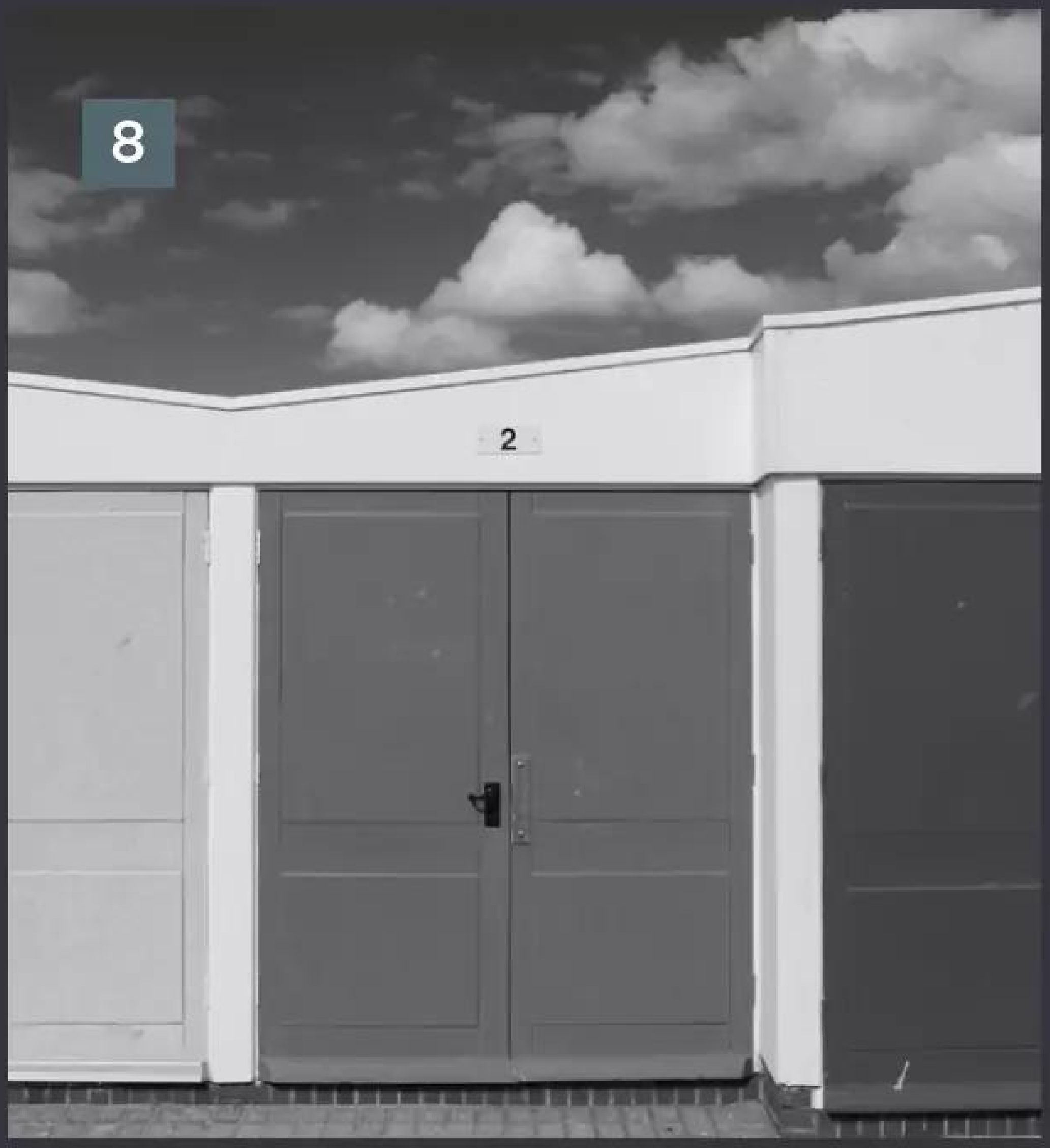
3
HOYA
52mm
R(25A


Red filter
4

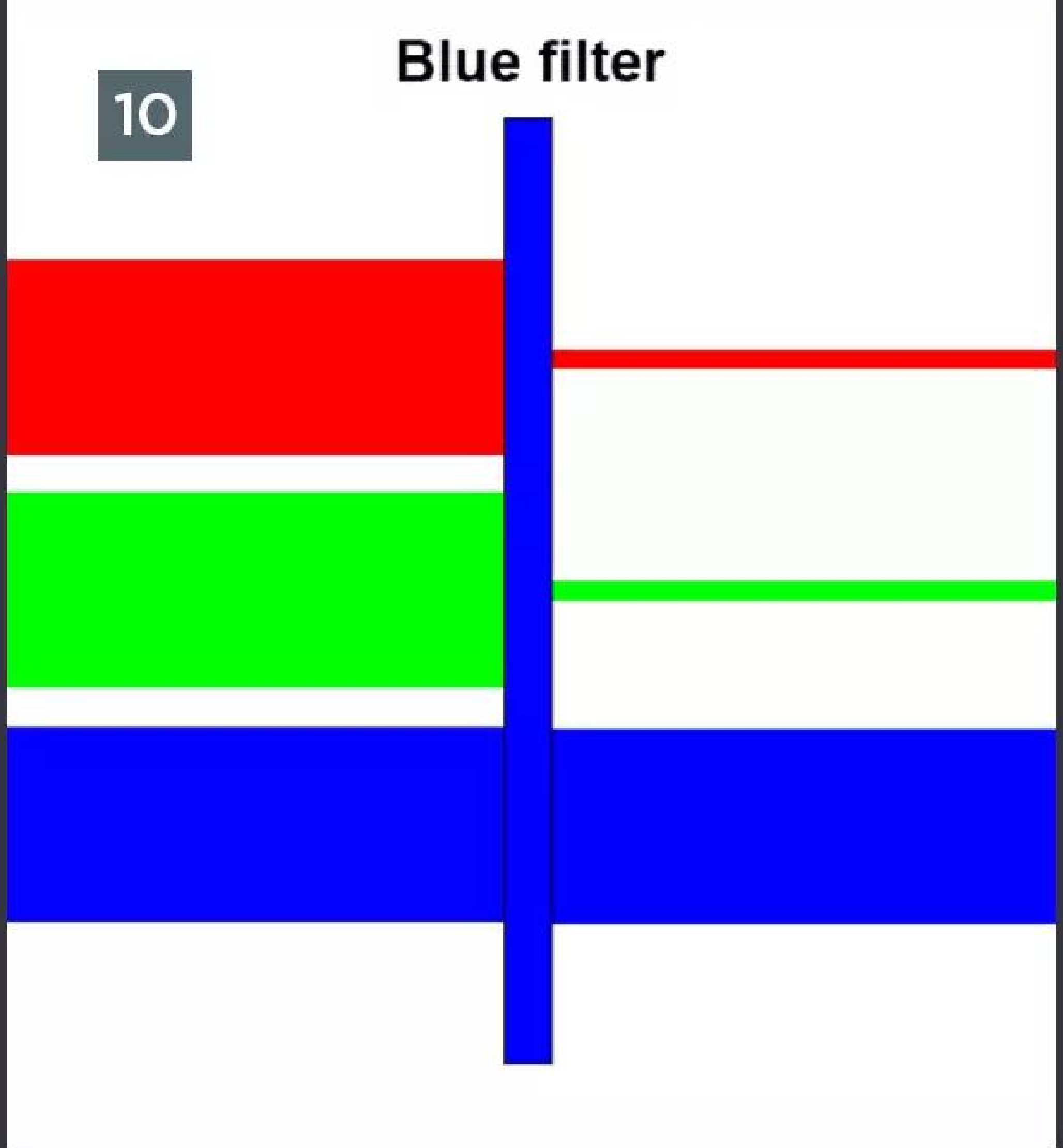

5
2

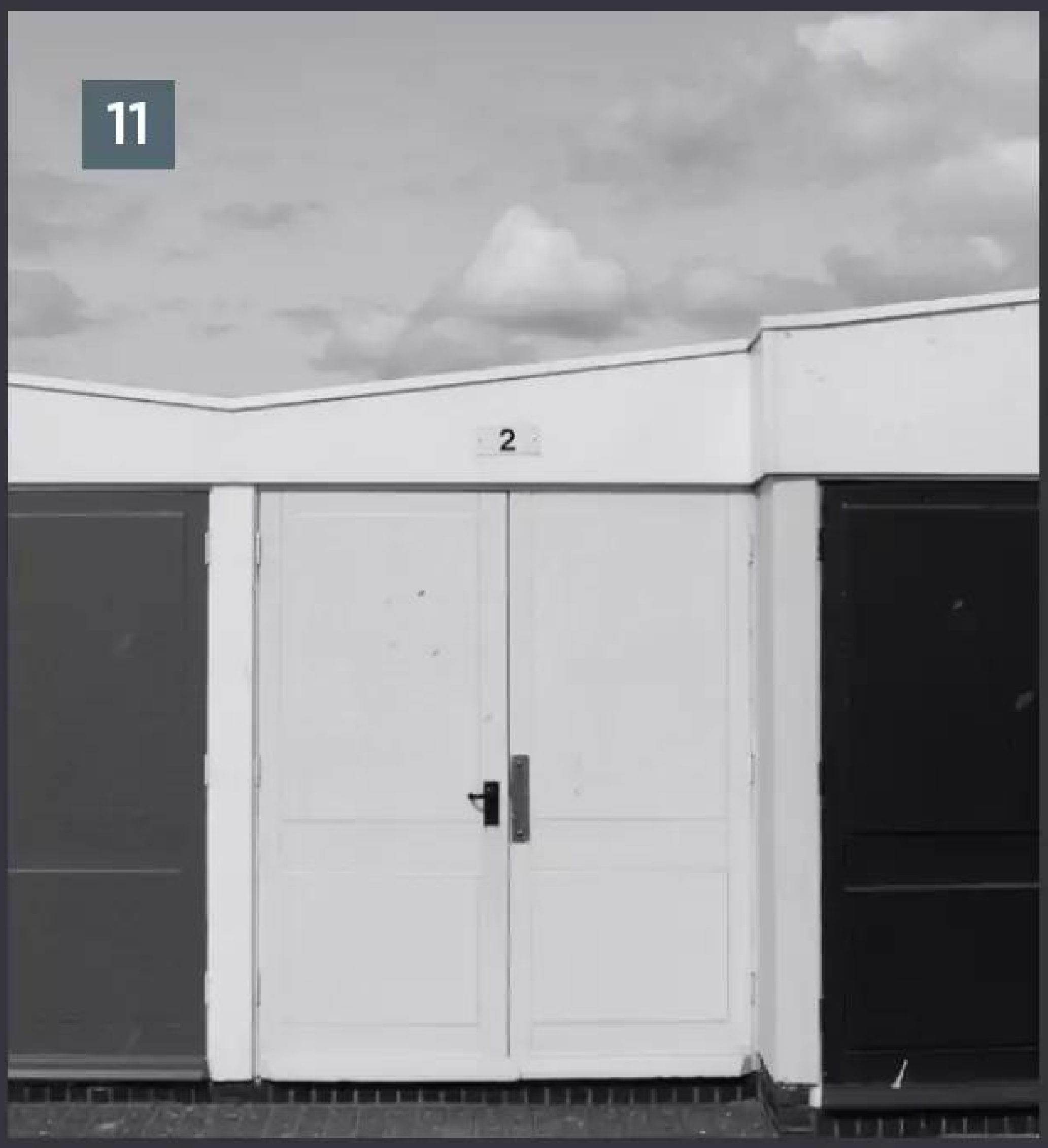
6
HOYA
52mm
G(X1)


Green filter
7


8
2

9
HOYA
HMC
72mm


Blue filter
10


11
2

GETTING STARTED IN BLACK AND WHITE

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46 COLOUR AND CONTRAST
46 WATCH THE SKIES

47 SHOOT, SHOOT AGAIN AND LEARN
47 SEEK INSPIRATION

Understanding black and white photography

WE OUTLINE THE ESSENTIALS FOR SUCCESSFUL BLACK AND WHITE PHOTOGRAPHY

Something that is worth pointing out at this stage, and it reinforces the essence of shooting images in black and white, is to be able to 'see' in black and white. We don't mean this literally of course; it is more a method of visualising the scene in front of you, being able to assess the colours, tones and light available, and envisioning how it will translate into a finished black and white image. Wherever possible, don't go for the 'shoot it now and worry about it in Photoshop later' approach. Examining the image, with the best chance for a successful mono conversion in mind, is a great way of producing better results.

The following pages detail some of the main elements you should keep in mind as you start out on your black and white journey. Naturally, as you develop in both skill and confidence, you will find through trial and error what works best for your particular creative vision. It is by no means an exhaustive guide, but hopefully it can set you on your way by outlining what are generally regarded as the essentials for black and white photography. ■

> "...being able to assess the colours, tones and light available, and envisioning how it will translate into a finished black and white image."

Seeing in black and white

HERE'S A QUICK AND SIMPLE METHOD TO GET YOUR EYE USED TO 'SEEING' BLACK AND WHITE

Although we will be talking about how to train your mind's eye to see the black and white potential of the colour world around us unaided, there is a great method that helps to kick things off and give you some rapid feedback on how your image might look in black and white.

The current crop of point and shoot cameras and the more advanced DSLR's have the facility to record images in black and white. A lot of them even have the ability to add effects and styles to the images before they even get to your computer. We want to concentrate on the very simple setting that basically turns your device into a black and white camera with the option to add simulated colour filters to affect the tones in your shot. The menu structure may differ from camera to camera, but it is usually found under the Picture Styles tab or similar.

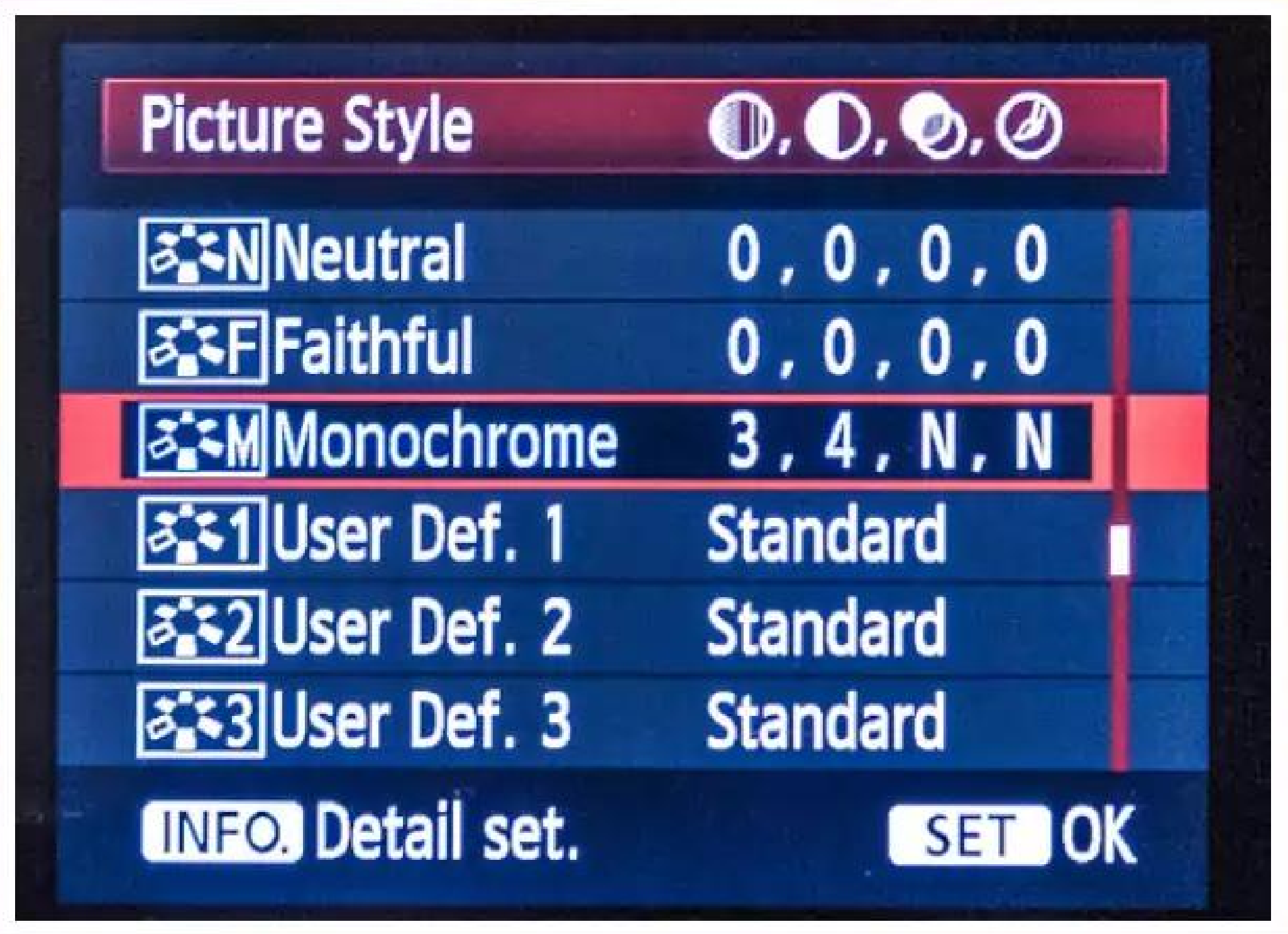
The great thing is, you can still shoot Raw images that you can edit in colour , but because you are in monochrome picture style mode, your camera's LCD screen will show the image in black and white. You could even decide to shoot in Raw and Jpeg formats at the same time. The Raw file will keep the colour data for further editing, and the Jpeg will be a processed black and white image. Either way, you have an original where the colour is retained.

Now you can go out and shoot and see immediately if an image has black and white potential and is worth keeping. ■

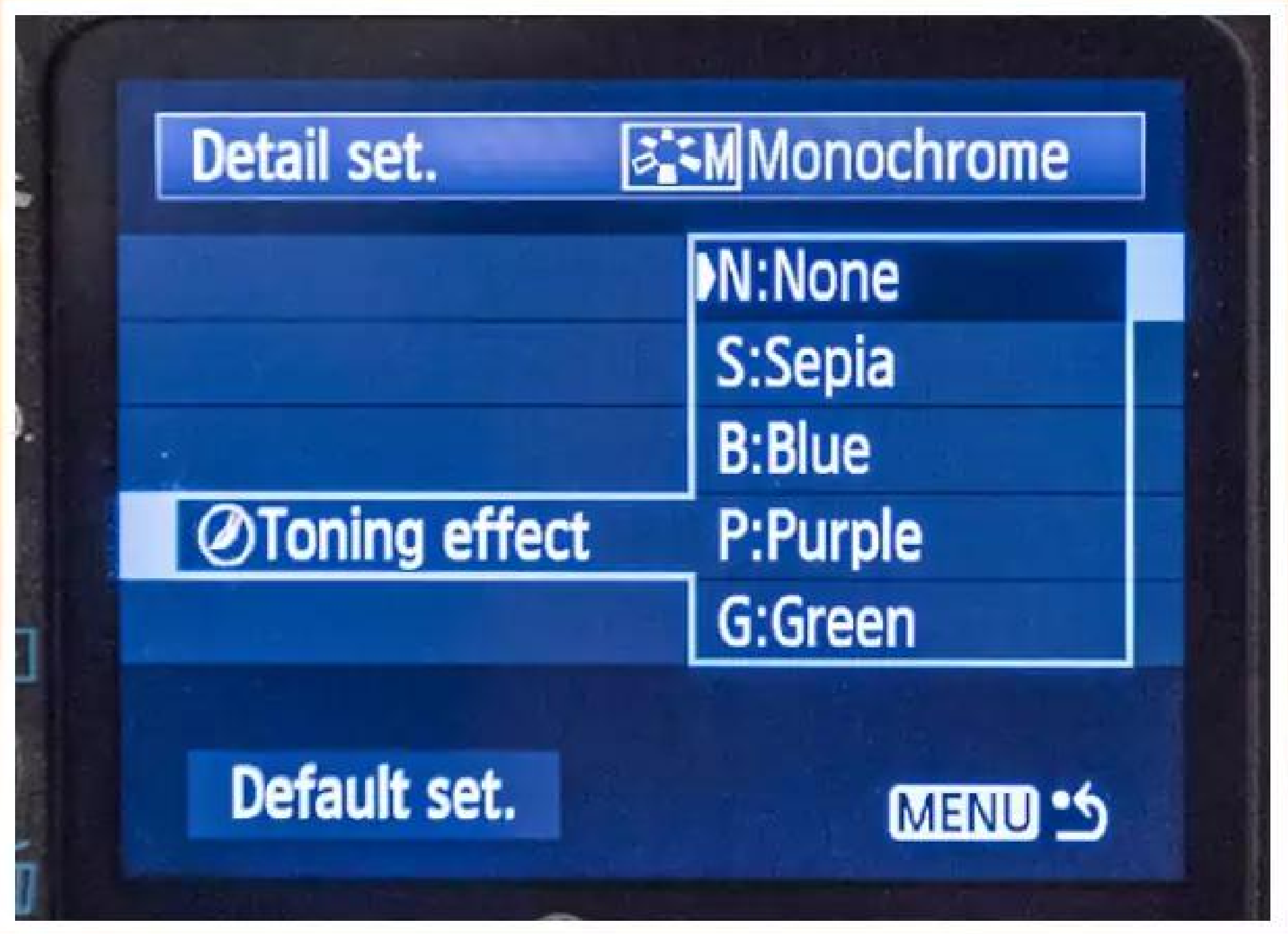
MENU
INFO.
AF-ON
1/1000 6.3 -2/3
100-0011
RAW+L
11/11
Canon
ON
OFF

Shooting in Raw format and setting your camera's picture style to monochrome means you can shoot and review your images straight away in black and white, but because they are in Raw format, the original colour data is not lost. When you come to process your images, you'll have as much data to work with as is possible.

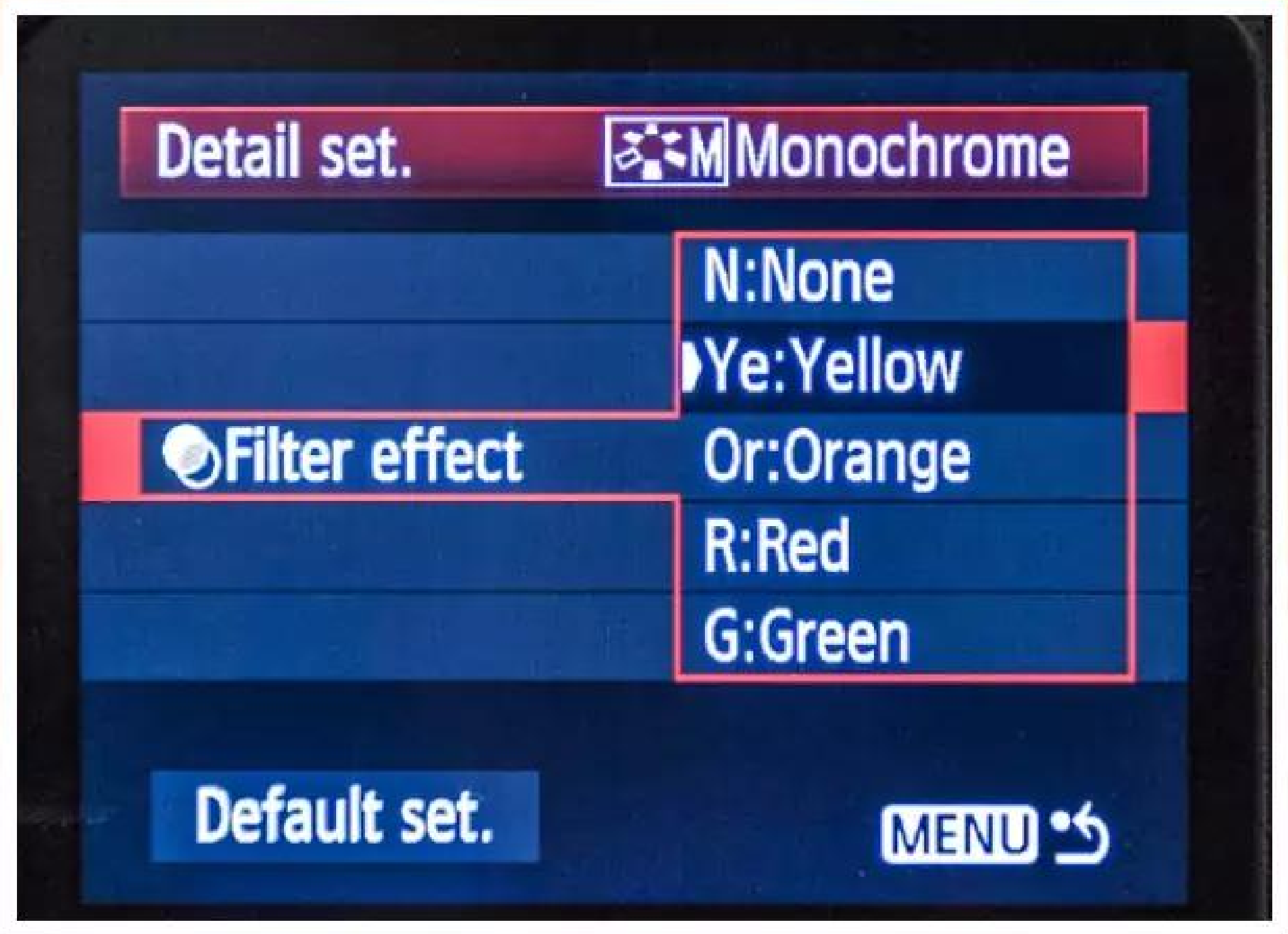
> "The great thing is, you can still shoot Raw images that you can edit in colour, but your camera's LCD screen will show the image in black and white."


Picture Style
N Neutral 0, 0, 0, 0
F Faithful 0, 0, 0, 0
M Monochrome 3, 4, N, N
1 User Def. 1 Standard
2 User Def. 2 Standard
3 User Def. 3 Standard
INFO. Detail set.
SET OK

In our example, we are showing screens from a Canon EOS 5DMK2, although menus may differ, most digital cameras offer the facility to shoot and display monochrome images, but still capture a Raw file that you can process fully later in either colour or black and white.

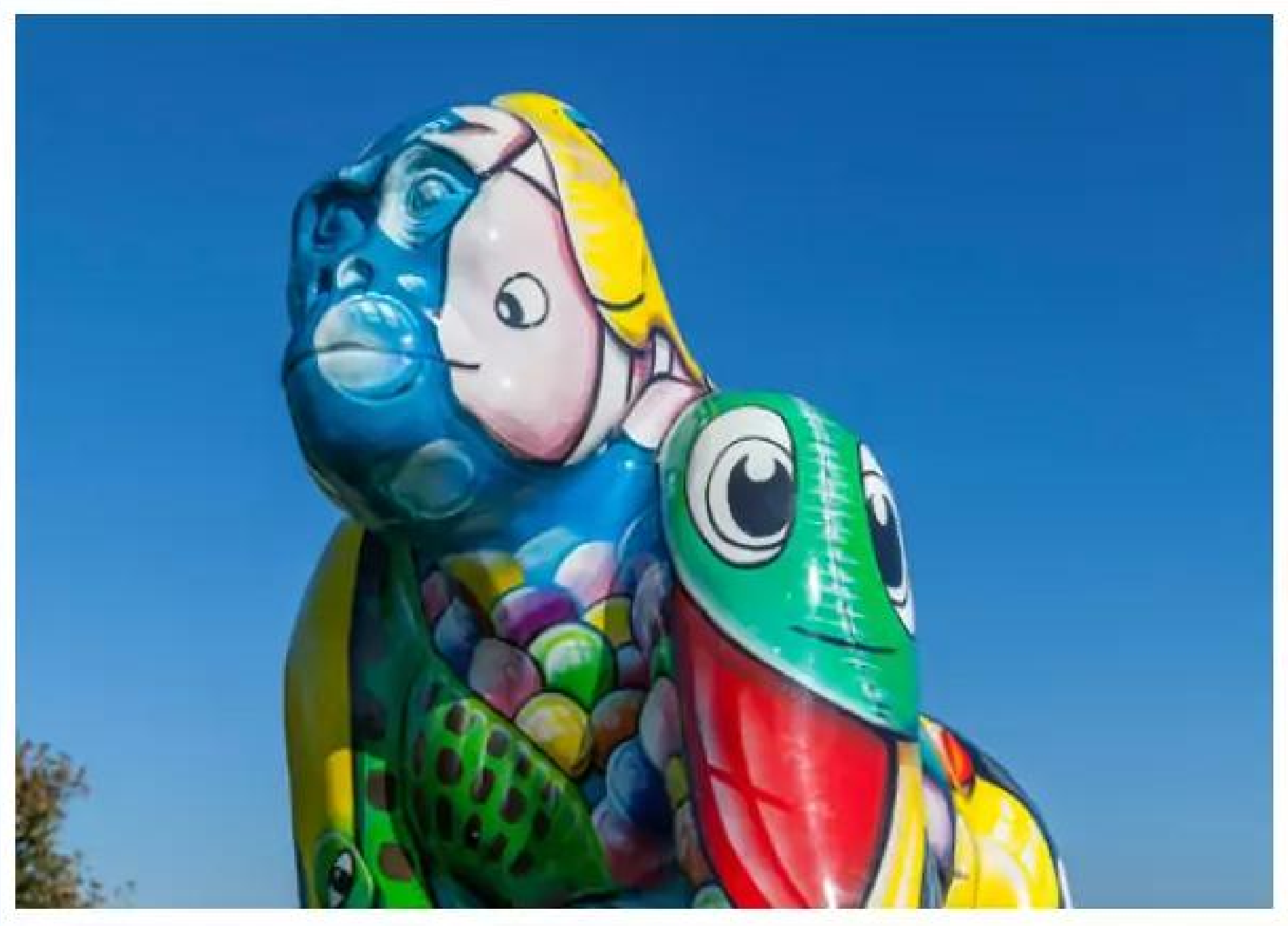

Detail set.
M Monochrome
Toning effect
N:None
S:Sepia
B:Blue
P:Purple
G:Green
Default set.
MENU

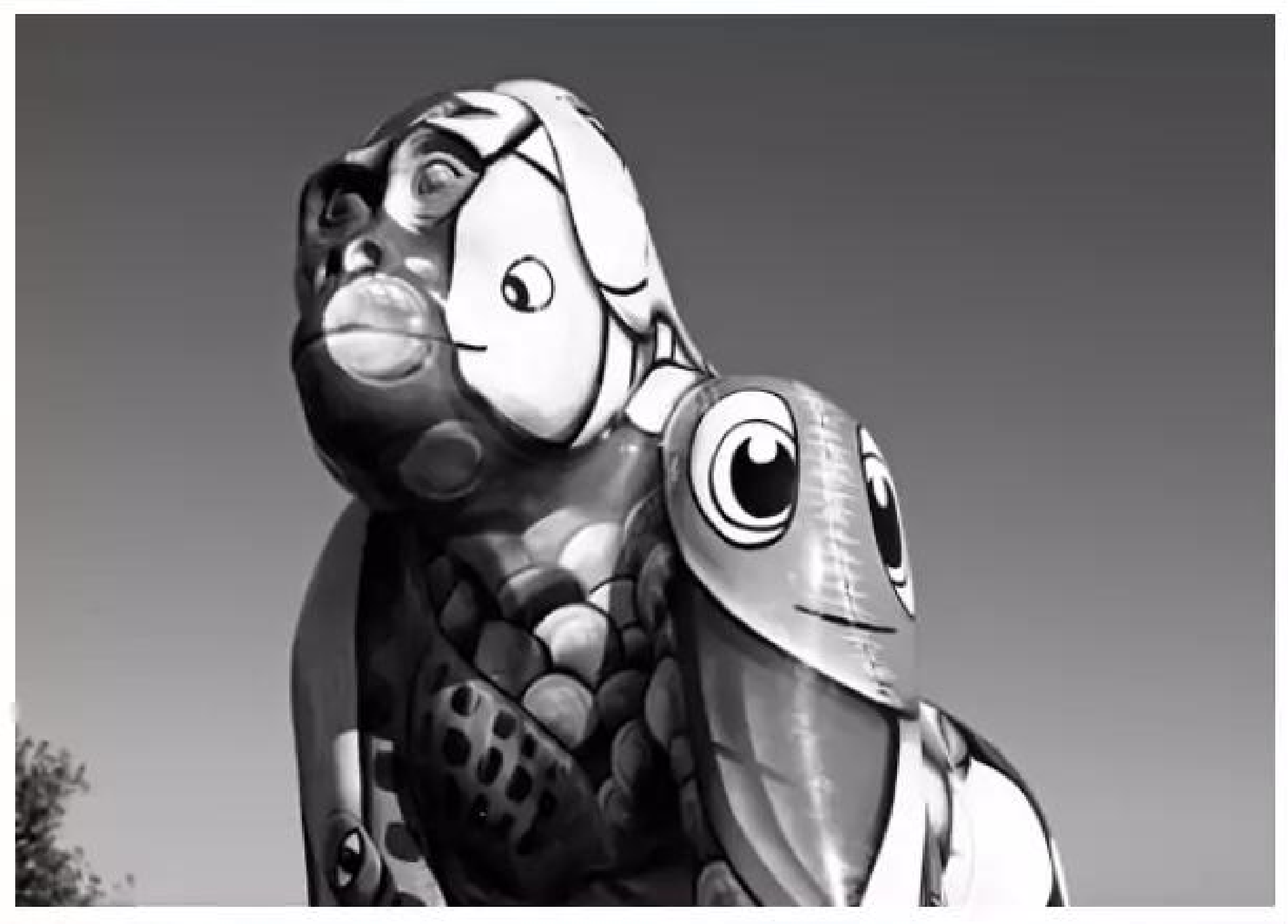
When shooting in the monochrome picture style, you also have the option to add either filter or toning effects. The filter effect simulate the use of real-world coloured filters and the toning effects will tint your images in a numbered of preset colours from sepia to purple, to green.

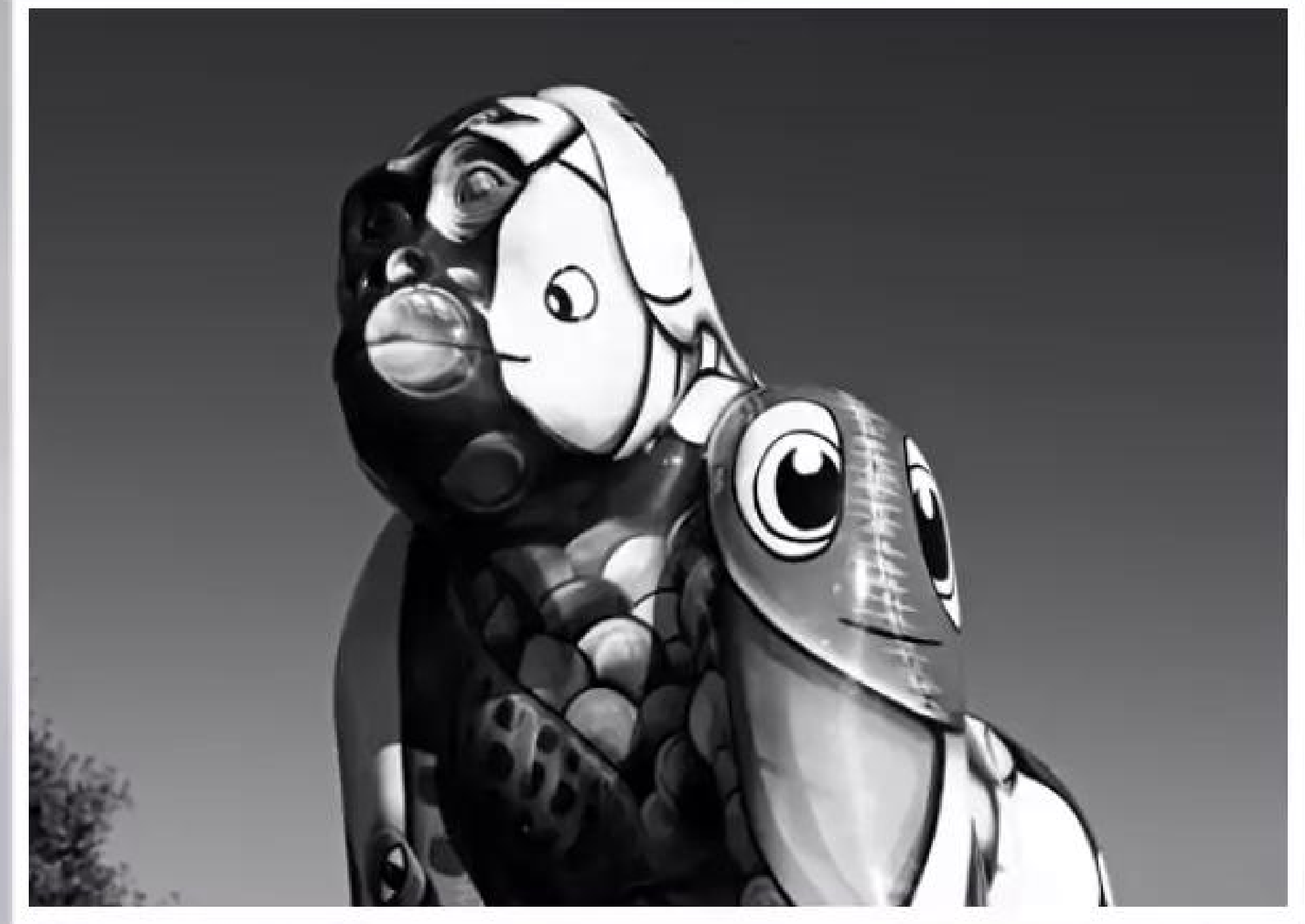

Detail set.
M Monochrome
Filter effect
N:None
Ye:Yellow
Or:Orange
R:Red
G:Green
Default set.
MENU

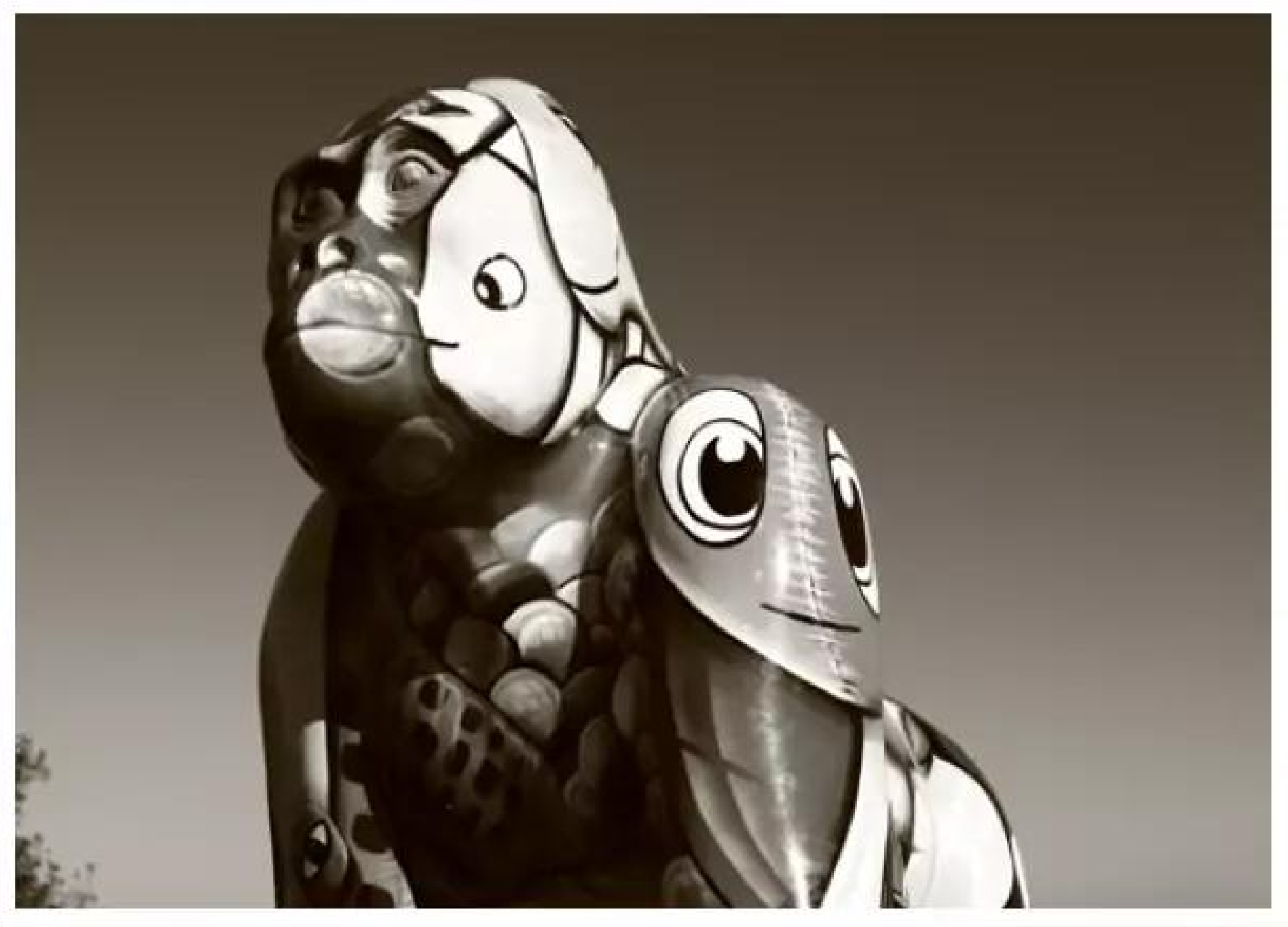
Under filter effects, you can choose from yellow, orange, red and green filters. They all will have a subtle effect on the monochrome image that is recorded. For example, a bright blue sky, shot in monochrome with a red filter, will be noticeably darker than if the filter were not applied.

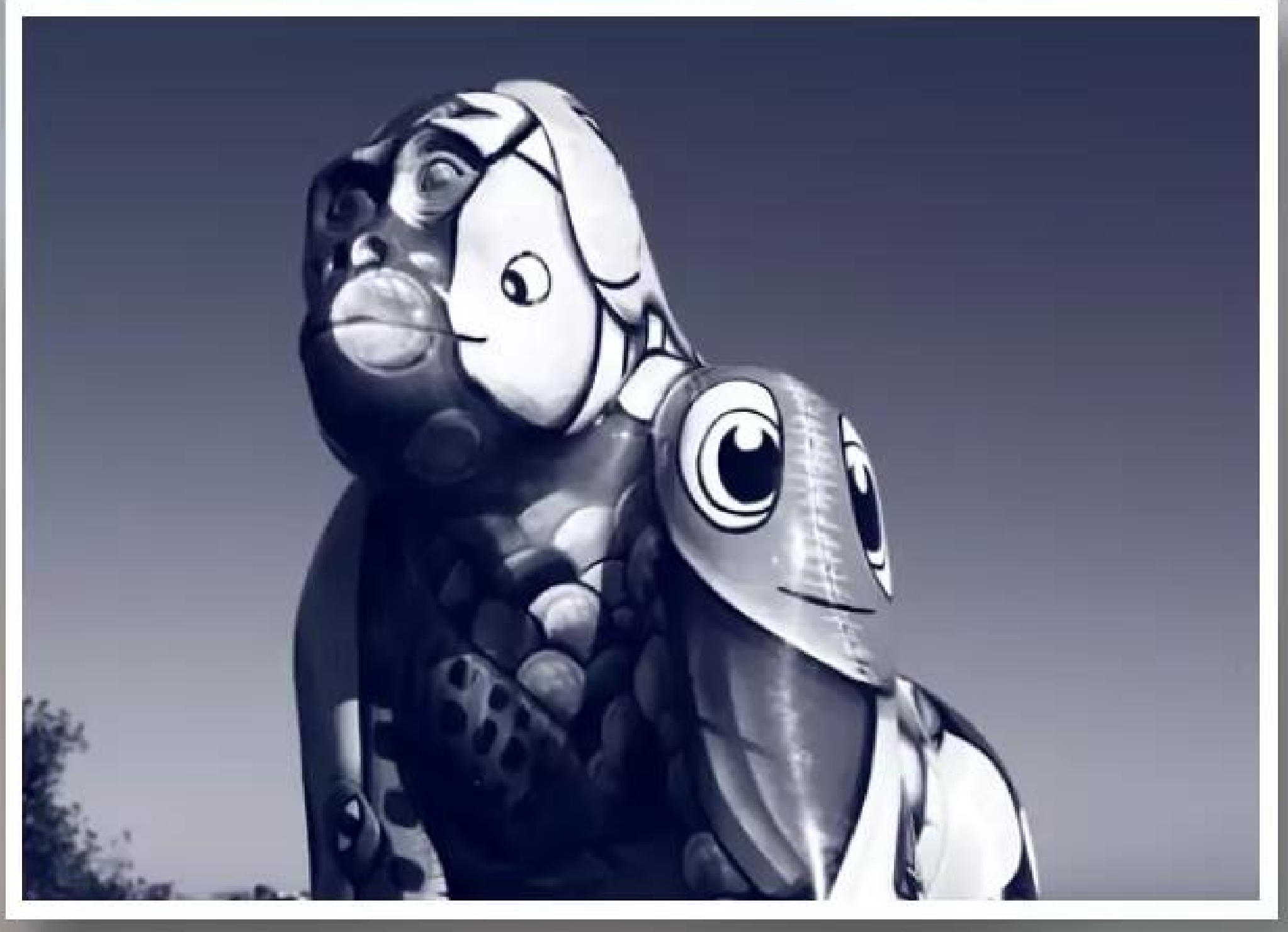
Below are some examples of the monochrome picture styles available to the Canon 5DMK2. The camera was set up to shoot one editable Raw file as well as a fully processed Jpeg, which had the particular effect permanently applied at the time of shooting.

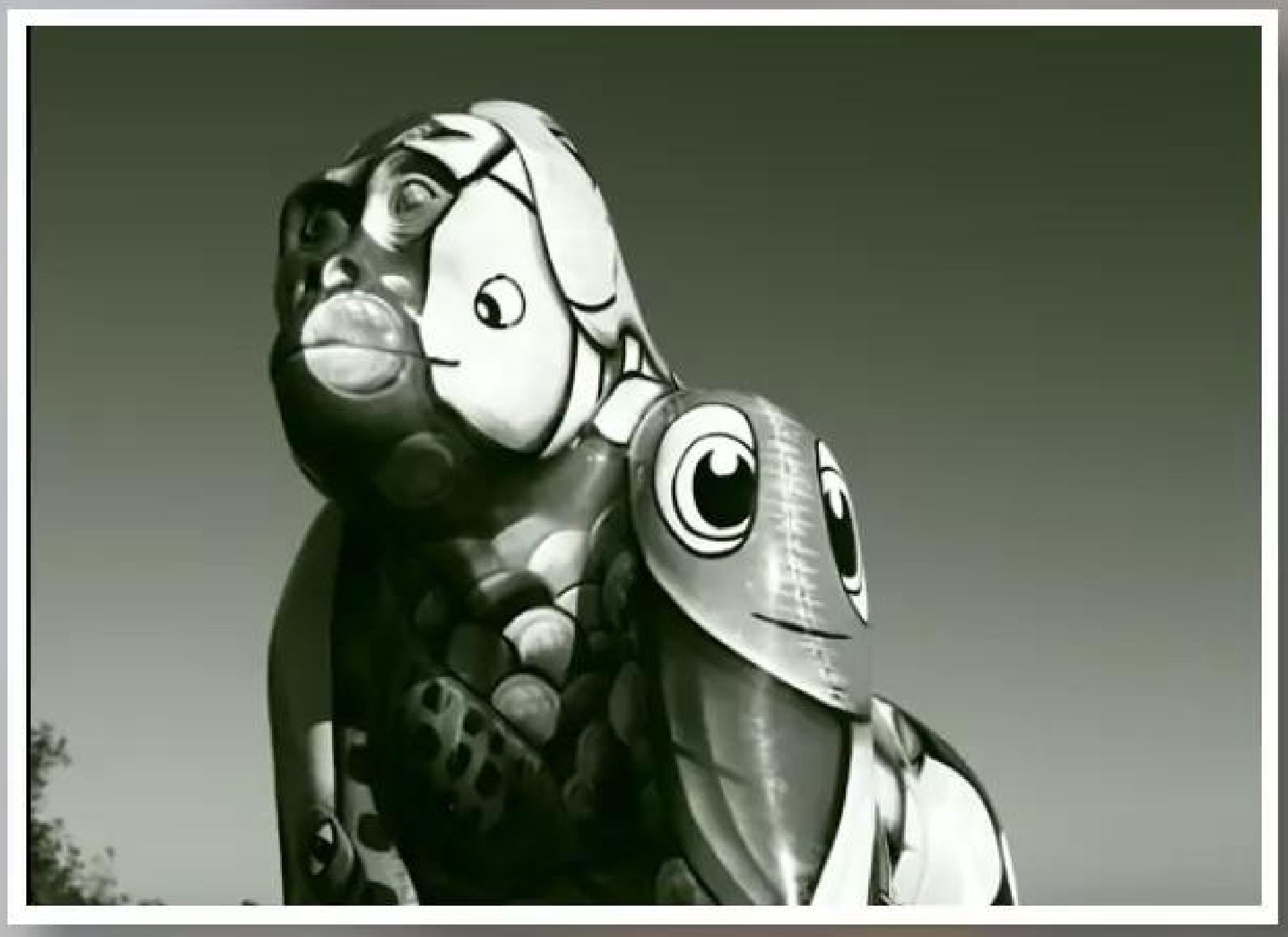

Original colour version from the Raw file.


Monochrome with Yellow filter applied.


Monochrome with Red filter applied.


Sepia toning effect applied.


Blue toning effect applied.


Green toning effect applied.

Top black and white photography tips

ESSENTIAL TIPS FOR BETTER BLACK AND WHITE IMAGES

1

Shoot in colour and in Raw

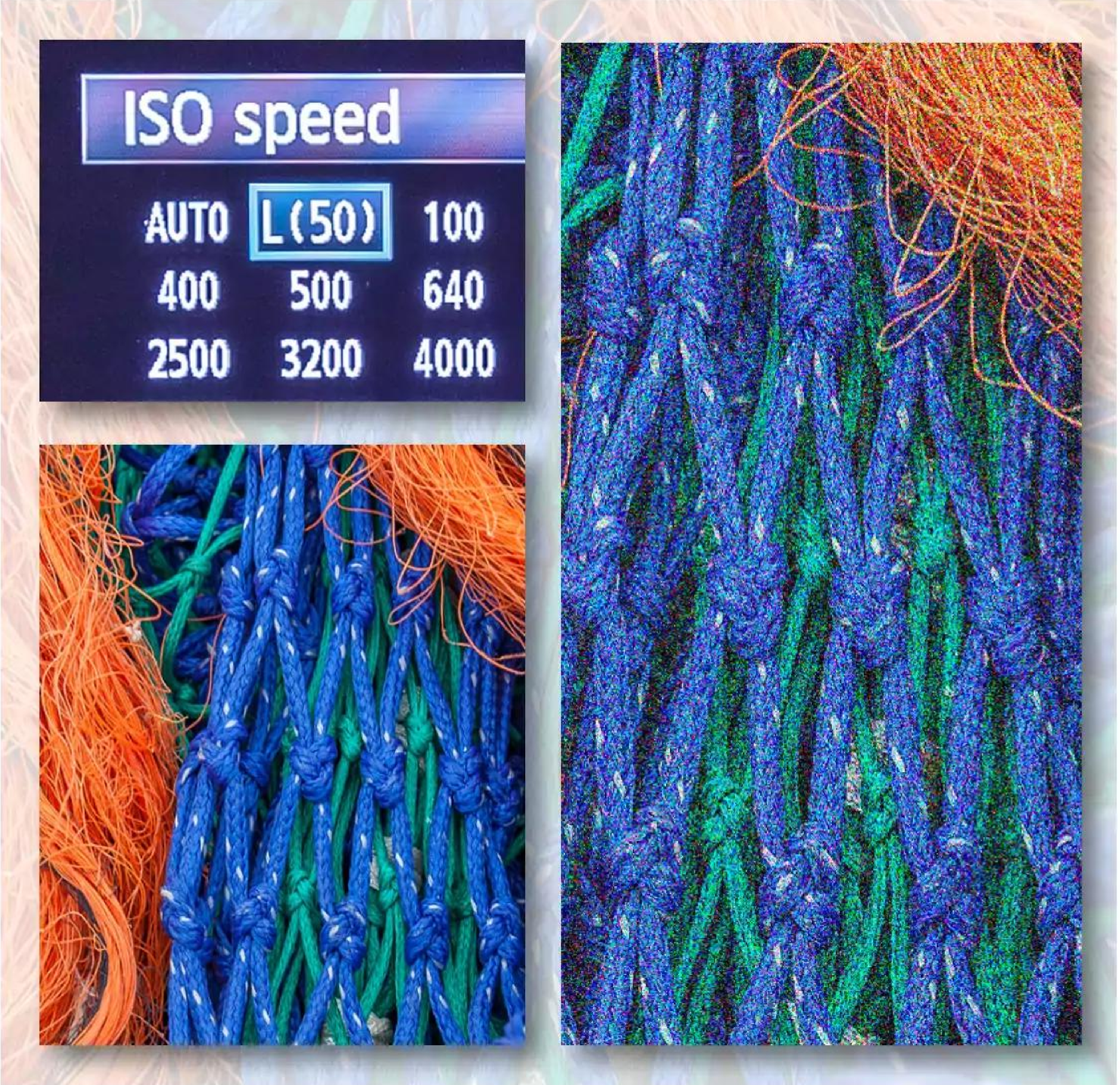
A lot of modern cameras have so-called creative functions that give you the option to capture your images in black and white at the outset. Doing this may actually result in a loss of tonal range. If you shoot in colour and especially in Raw format, you will be capturing the full gamut of tonality that your camera's sensor can see. This is a much better starting point with more control than an in-camera mono image. It won't stop you if your camera can't shoot Raw, and you have to use jpegs instead; just keep them in colour.

Image quality
Standard
L 22M 5760x3840 [1829]
RAW
– RAW MRAW SRAW
+
JPEG
– L L M M S1 S1 S2 S3

2

Keep your ISO low

The lower your ISO, the less grainy the images will be. If it means you need a tripod to handle slower shutter speeds, then that is a good thing. Shooting from a tripod tends to slow down the shooting process and can be more considered. Too often a camera's ISO setting will be left on auto, pushing up ISO speeds to make sure there is no camera shake. The downside is that higher ISO equals higher noise in your image, which will only be exacerbated by the post-processing stage. You can always add grain during the processing stage, if you think the image will somehow benefit from it.



3

The best conditions to shoot

The truth is, there aren't necessarily any best conditions in which to shoot black and white. Some mono shooters actually prefer to take their shots on overcast and generally dark days. The low contrast seems to be a draw for these photographers. Certainly, a grey cloudy sky can be made to look very moody and dramatic, as opposed to a blue sky with white puffy clouds. A lot of it will come down to your personal preference and mono conversion technique. However, just because it's overcast it doesn't mean there aren't any interesting image possibilities out there.

4

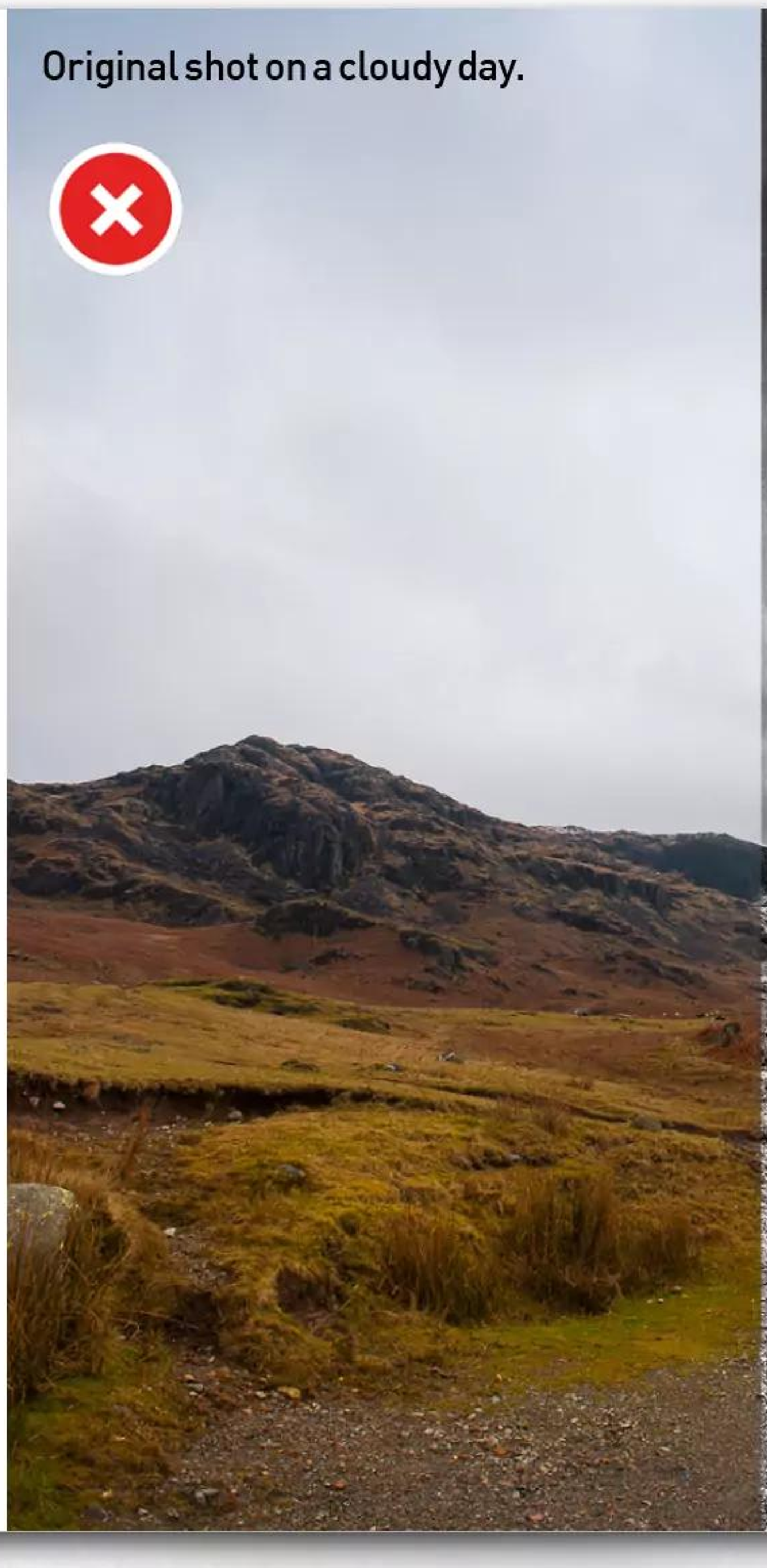
Lighting in your scene

Your image can stand or fall on the quality of the light in the scene. It is generally held that midday sunlight knocks detail flat and creative possibilities are more limited. For landscapes particularly, the first light of morning or the last light of evening is a much more prized commodity. Light glancing across the land picks out details, throws long dramatic shadows and enhances contrast. You can use this great light for mood and drama that is absent when the sun is at its zenith.

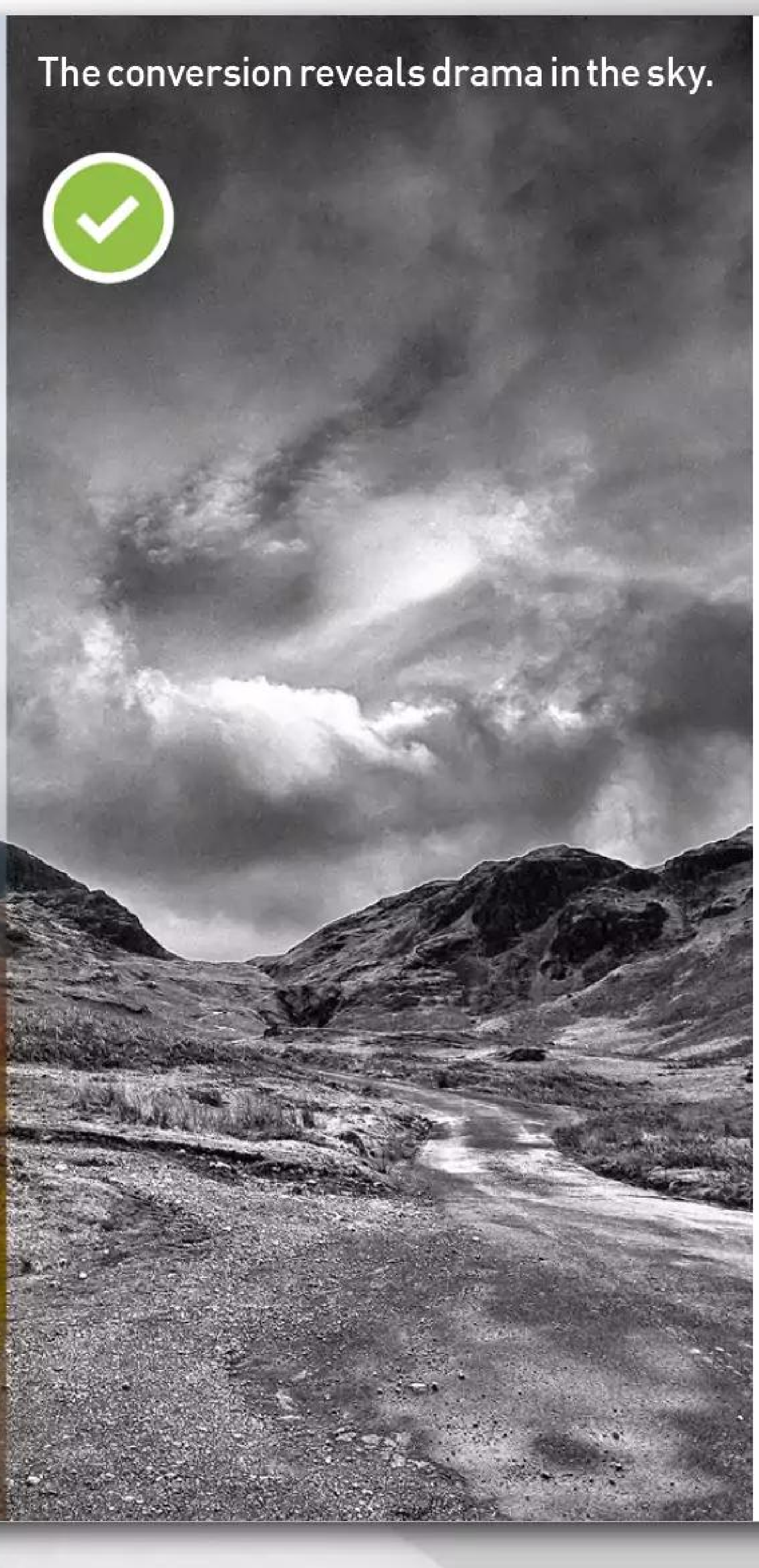
5

Consider your subject

Trying to think in black and white - that is to say, trying to visualise the scene in front of you with all its colour absent - is a good skill to try and develop. The simple question you have to ask yourself at the outset is whether the resulting image would be improved by being in black and white, or whether colour would be the best thing for it. Not every image will work in black and white. Sometimes the removal of colour can also remove differentiation between objects that could easily be distinguished were they in colour.



Original shot on a cloudy day.

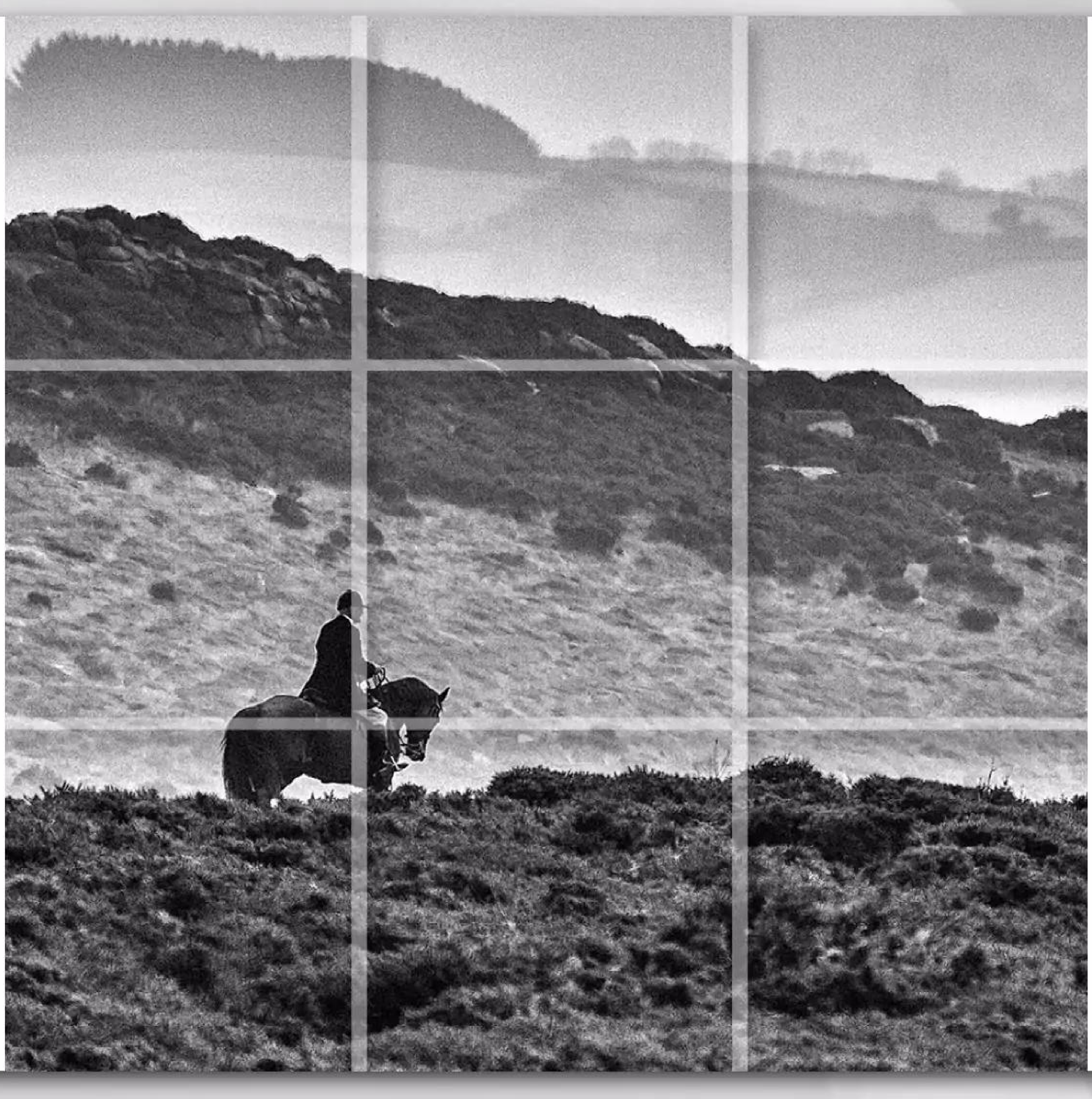


The conversion reveals drama in the sky.

6

Compose yourself

The basic rules of thumb that apply to general colour photography also apply to black and white. The rule of thirds, golden ratio, leading lines, framing and viewpoint are all well-established guidelines that can make even the simplest scene stronger with some care and attention given to the composition of the final shot. Now, having said that, sometimes rules can be broken. If you find your scene somehow doesn't conform to a standard rule, take the shot anyway. Now and again it's refreshing to shoot something 'just because...'!



7

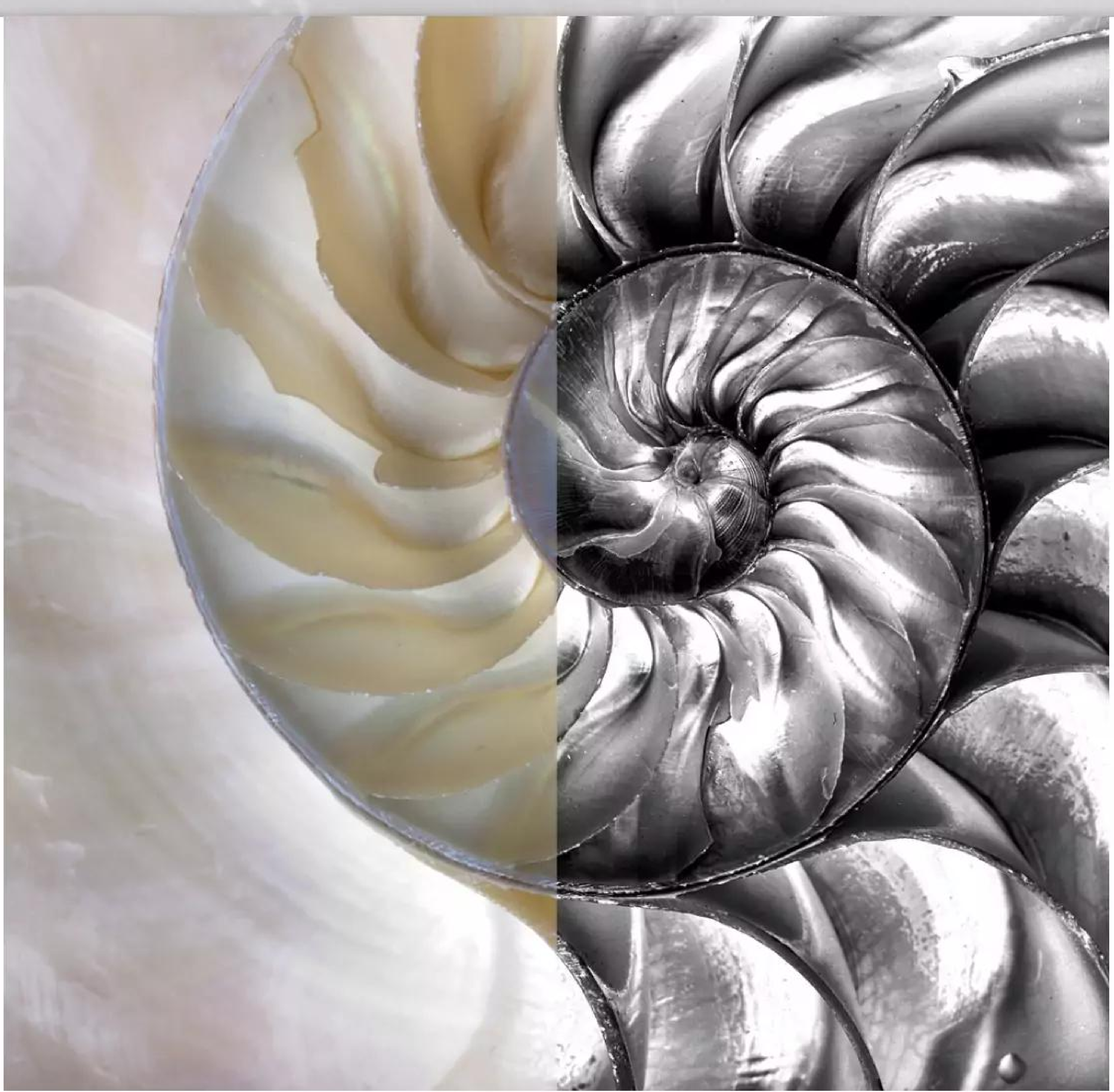
Look for shape and form

In black and white particularly, shape and form become very important to the success of the image. Converting to black and white means you can no longer rely on any colours in the scene to define or differentiate your subject from its environment. You need to be able to take the shapes, lines and forms available in the shot, and use them as the method by which the image is given an obvious focal point or object of interest.

8

Emerging patterns

The shift from colour to black and white often reveals details that might otherwise have been hidden under the obscuring cloak of colour. Colourful items in a shot can be distracting, as we've already mentioned, sometimes to the point of masking very interesting but perhaps subtle patterns that can only be appreciated once colour is removed from the scene.



Top black and white photography tips

9

Texture adds interest

Can you imagine how flat and featureless our world would be without texture? You need to bear that thought in mind when you shoot for black and white. A mono image and texture are inextricably linked, and part of the overall success of an image depends on there being elements that can show depth, dimension and contrast. Textured objects reflect light in interesting ways and draw the viewer's eye into the scene. A combination of textures in your mono image is a winning formula. Imagine a close-up portrait of a fair skinned woman with a rough stone wall as her background. The juxtaposition of the two makes the image interesting.

10

Colour your image

Wait, what? Well, we don't mean that you should convert it back to colour. However, a black and white image does not need to be shades of black and white. Consider a duotone image where shades of black and white are replaced by shades of two other colours. Sepia toning is of course one of the main staples of the black and white image. There is also the cyanotype (the colour of the blueprint), or there is the split toning technique whereby you assign one colour to the shadow areas of an image, and another colour to the highlight areas. The results can be very exciting.

CANON EF LENS
EOS 5D

11

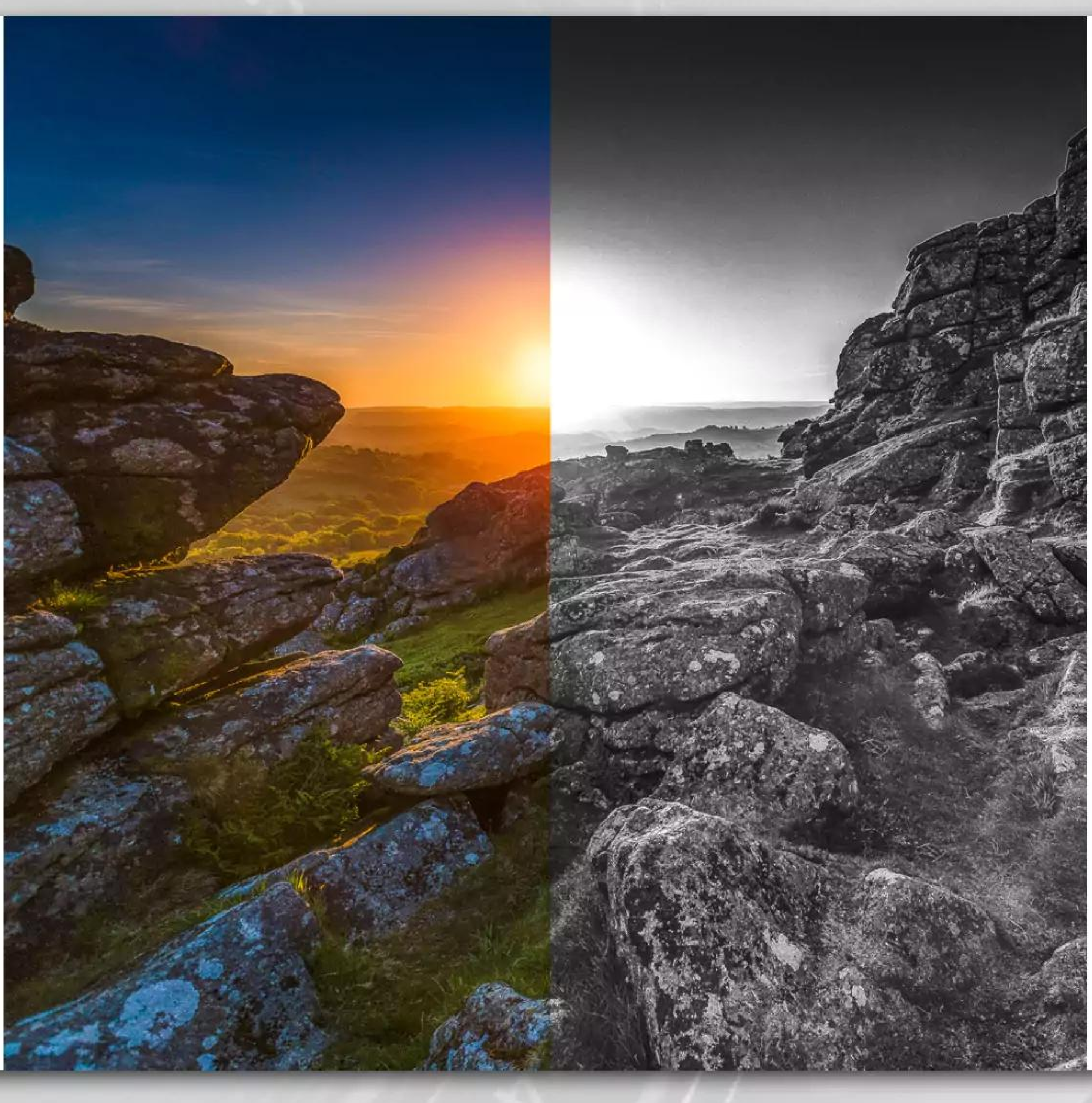
Dodge and burn

Images can be transformed by a competent mono conversion. Try not to rely on a simple desaturated image and call it done. The tonal quality of the image can be enhanced tenfold by a few simple adjustments to brightness and contrast. By using dodge (lightening) and burn (darkening) techniques in specific areas of your image, you can selectively boost brightness and contrast in shadow, mid-tone and highlight areas to improve the overall look of the image.

12

Consider HDR

A High Dynamic Range image is the fusion of three standard bracketed low dynamic range images that are combined to produce a single image that covers a much greater range of tonal values from the darkest shadows to the brightest highlights. Usually two or three stops apart, these LDR's, when fused together, capture more light data in a scene than a single shot can achieve on its own. As a by-product, you also get a lot more detail in the shots. Perfect for scenes with lots of texture that you can bring out in the conversion stage of your workflow.

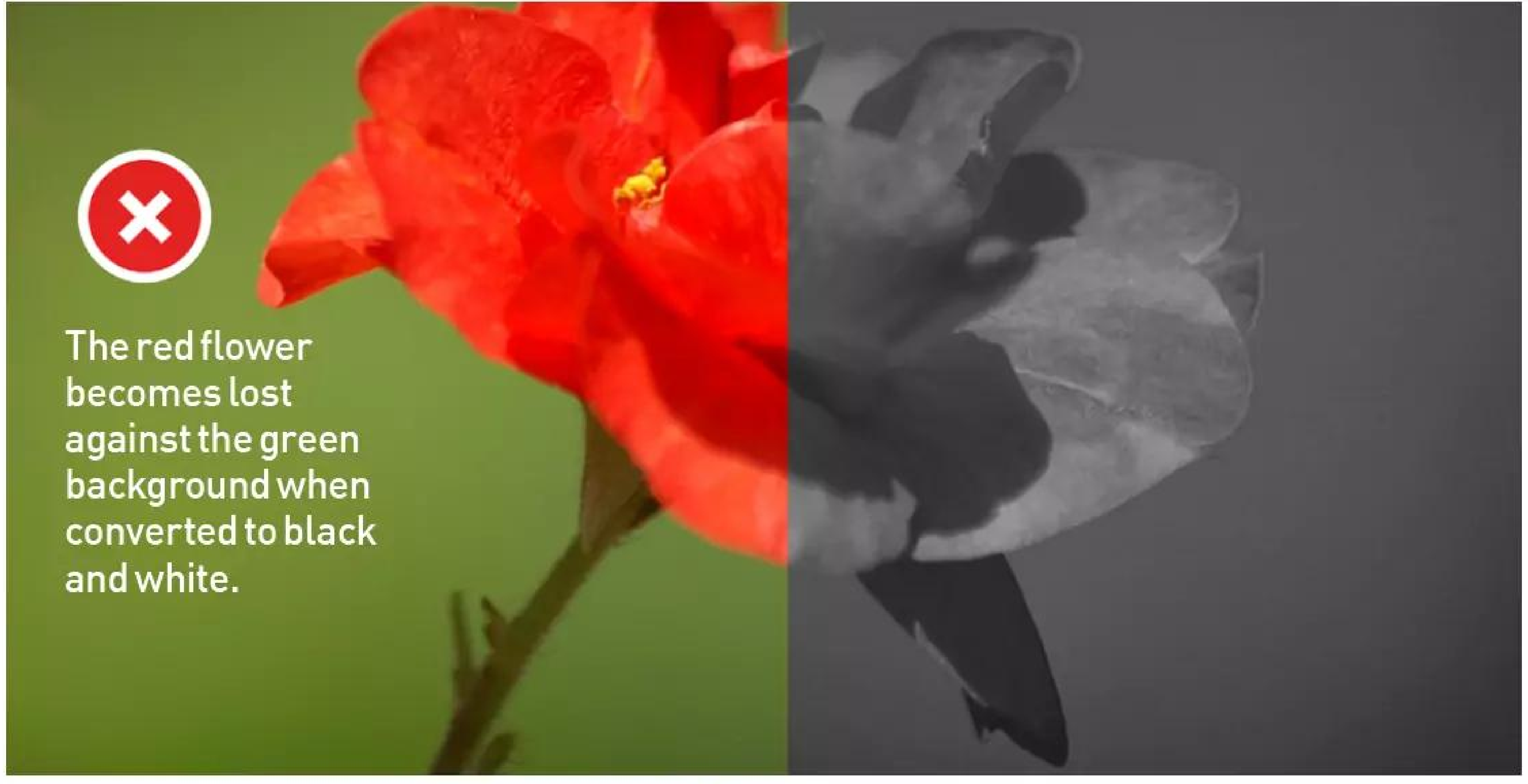


Top black and white photography tips

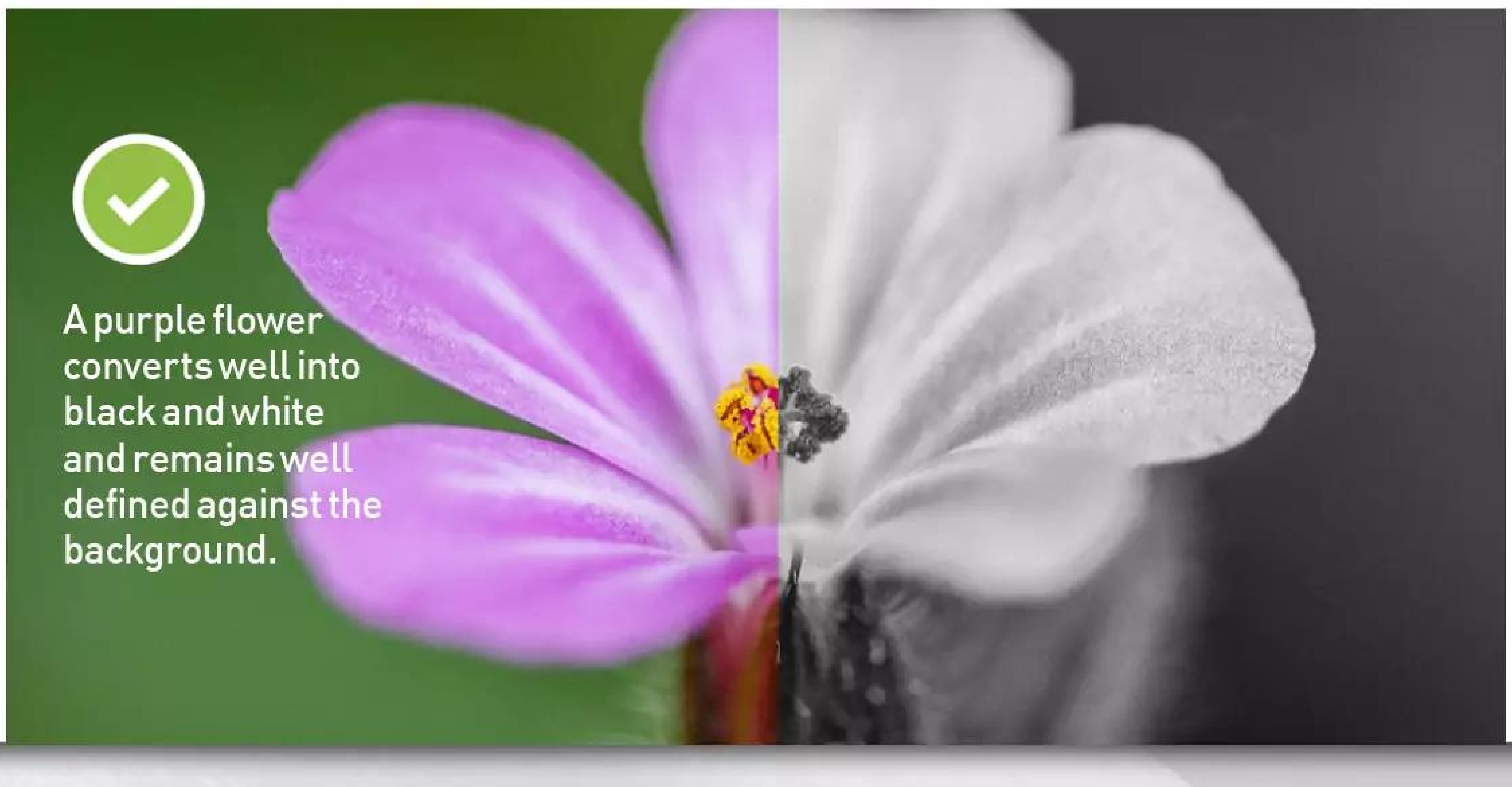
13

Colour and contrast

You'd imagine that your black and white image doesn't rely on colour or great weather for the image to be successful, although you need to be keenly aware of the differences between colour values in your objects so that they still have some distinct separation, and can be differentiated when converted. A red flower against a green background may work well in colour; but in black and white the tones can look very similar, and suddenly your flower is lost against the background.



✗ The red flower becomes lost against the green background when converted to black and white.



✓ A purple flower converts well into black and white and remains well defined against the background.

14

Watch the skies

Be aware that grey overcast days can produce some spectacular moody shots. However, watch out for skies that are one single tone of grey with no cloud formations showing. When converted, this will make for a fairly boring-looking sky with no real texture or interest. True, you could break out the image editing software and drop in a new sky, but try to keep as much of the final image 'in camera' as you can.

CANON EF LENS
EOS 5D

15

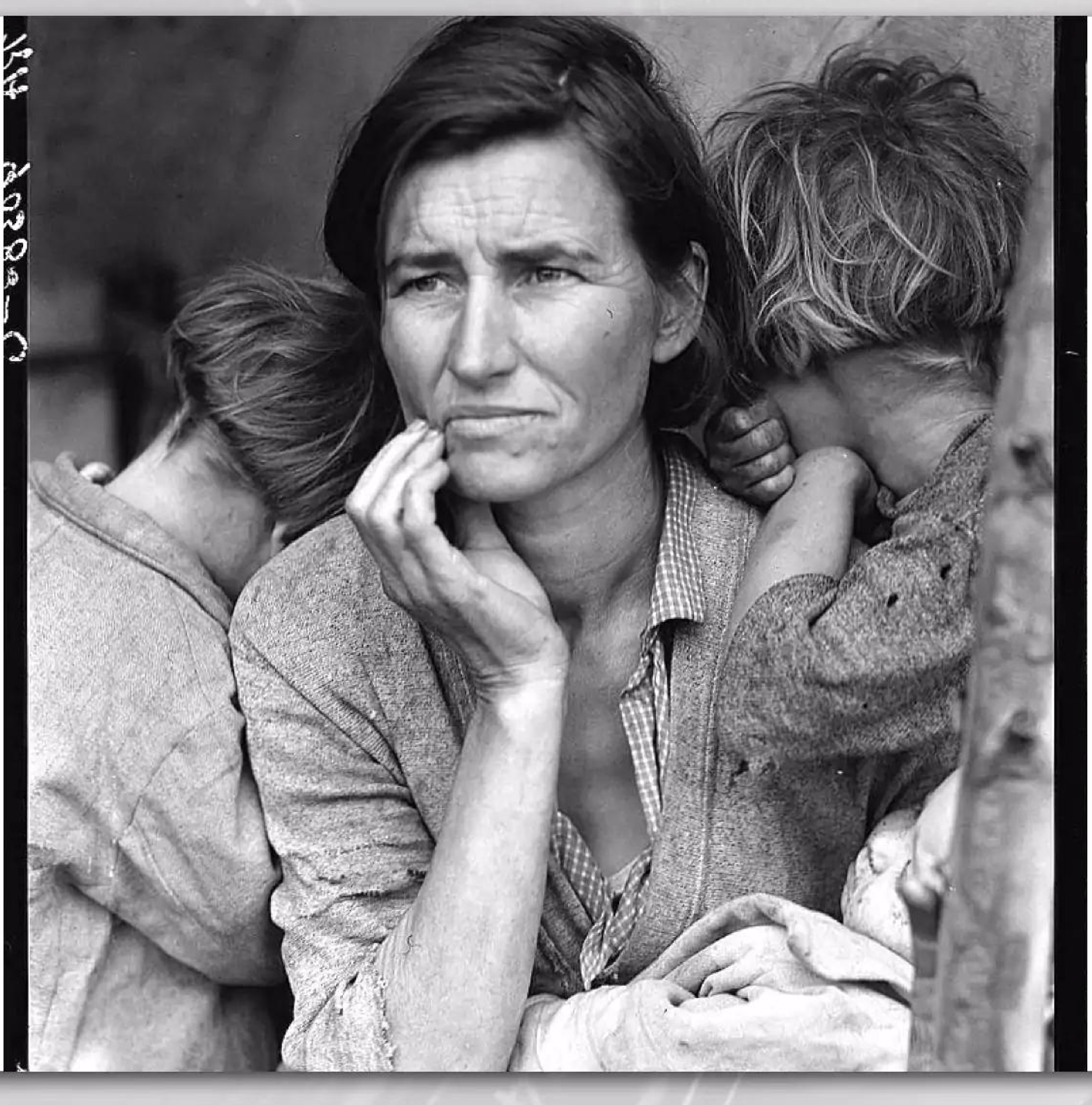
Shoot, shoot again and learn

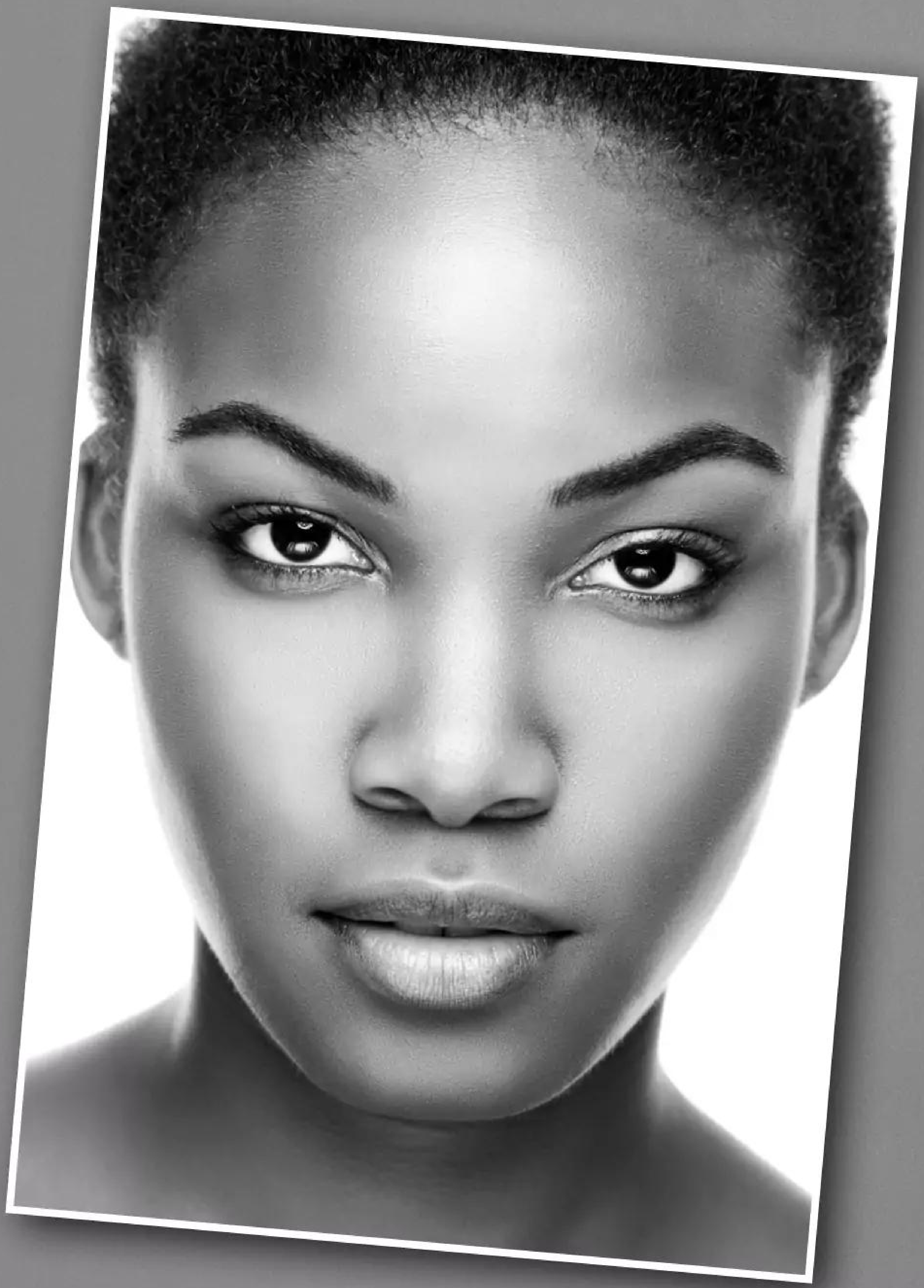
Practice makes perfect, right? The more you shoot, the wider the range of subjects you experience, and the greater variety of lighting conditions you encounter; this will all help to train your eye and your brain to be able to 'see' that perfect black and white image through a sea of colour. Experiment and have fun. You've nothing to lose, and you have the potential gain of the next 'wow!' black and white image.

16

Seek inspiration

Take time to familiarise yourself not only with the work of some of the greats of black and white photography, but also your contemporaries. Flickr, the image sharing website, is a great place to gain inspiration and see what other photographers are doing. Flickr also collaborated with the U.S. Library of Congress to create 'The Commons', an expanding database of publicly accessible images where you can search and view many of the world's public photography archives. Also, try a Google search for Ansel Adams, Cecil Beaton, Richard Avedon, David Bailey and Man Ray.





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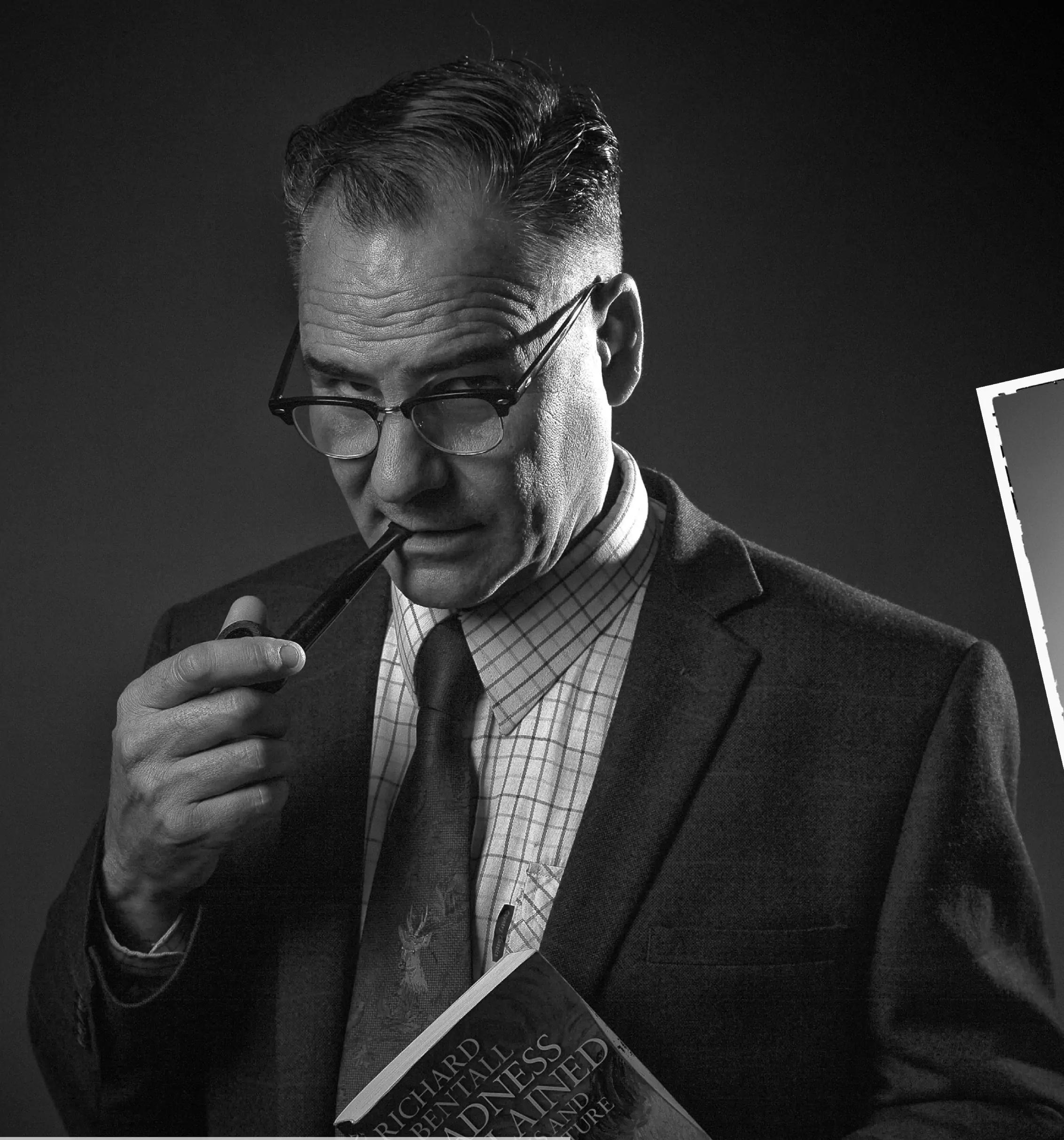
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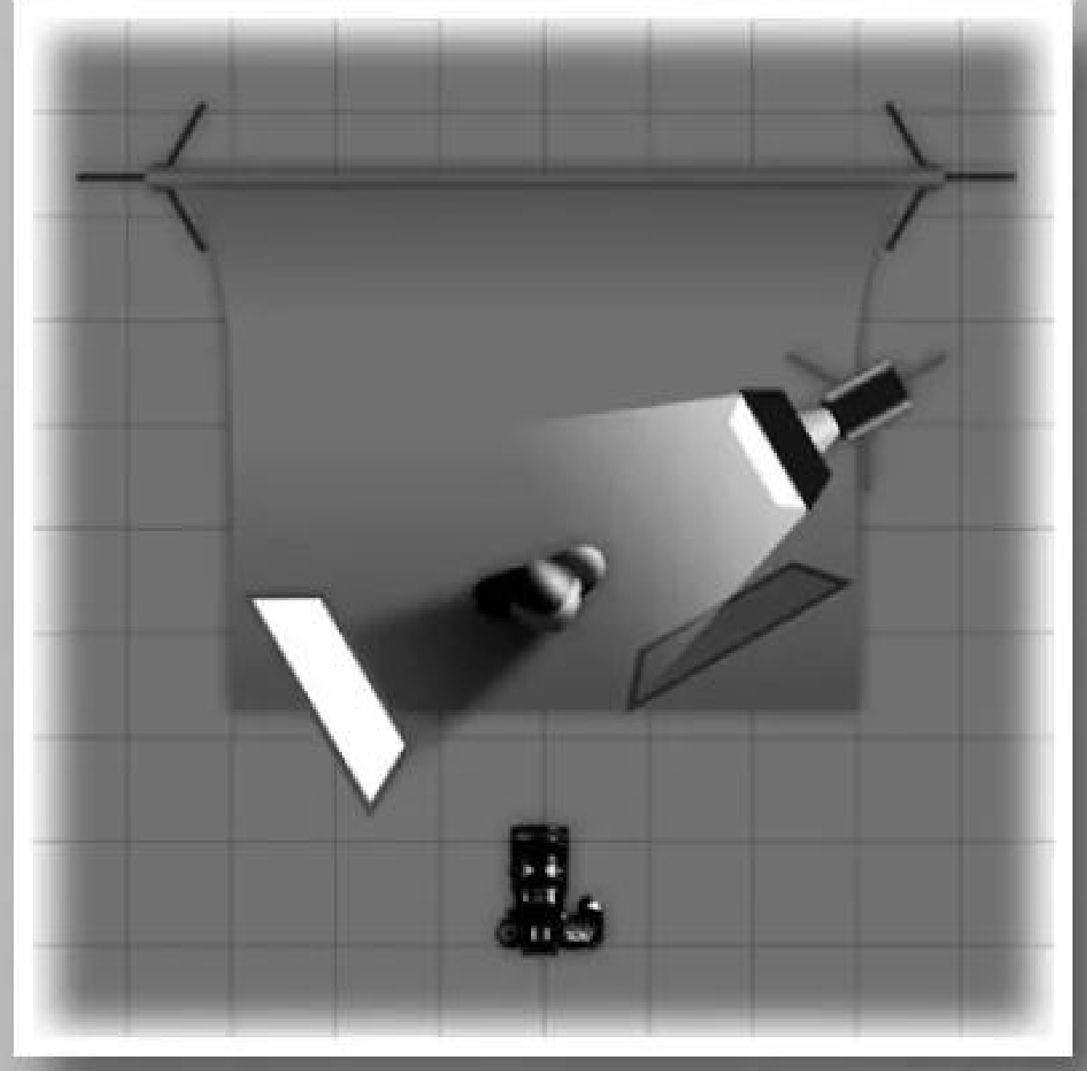
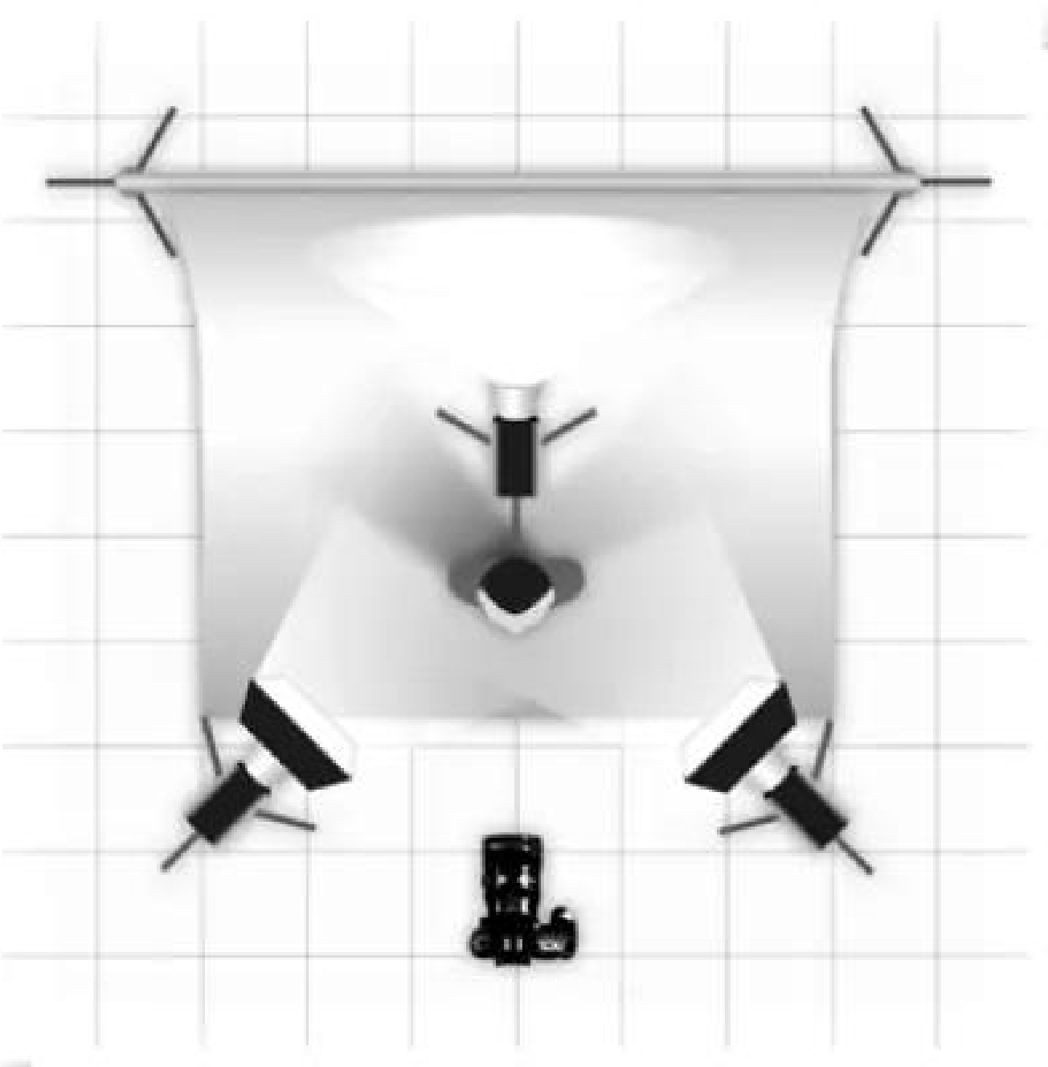


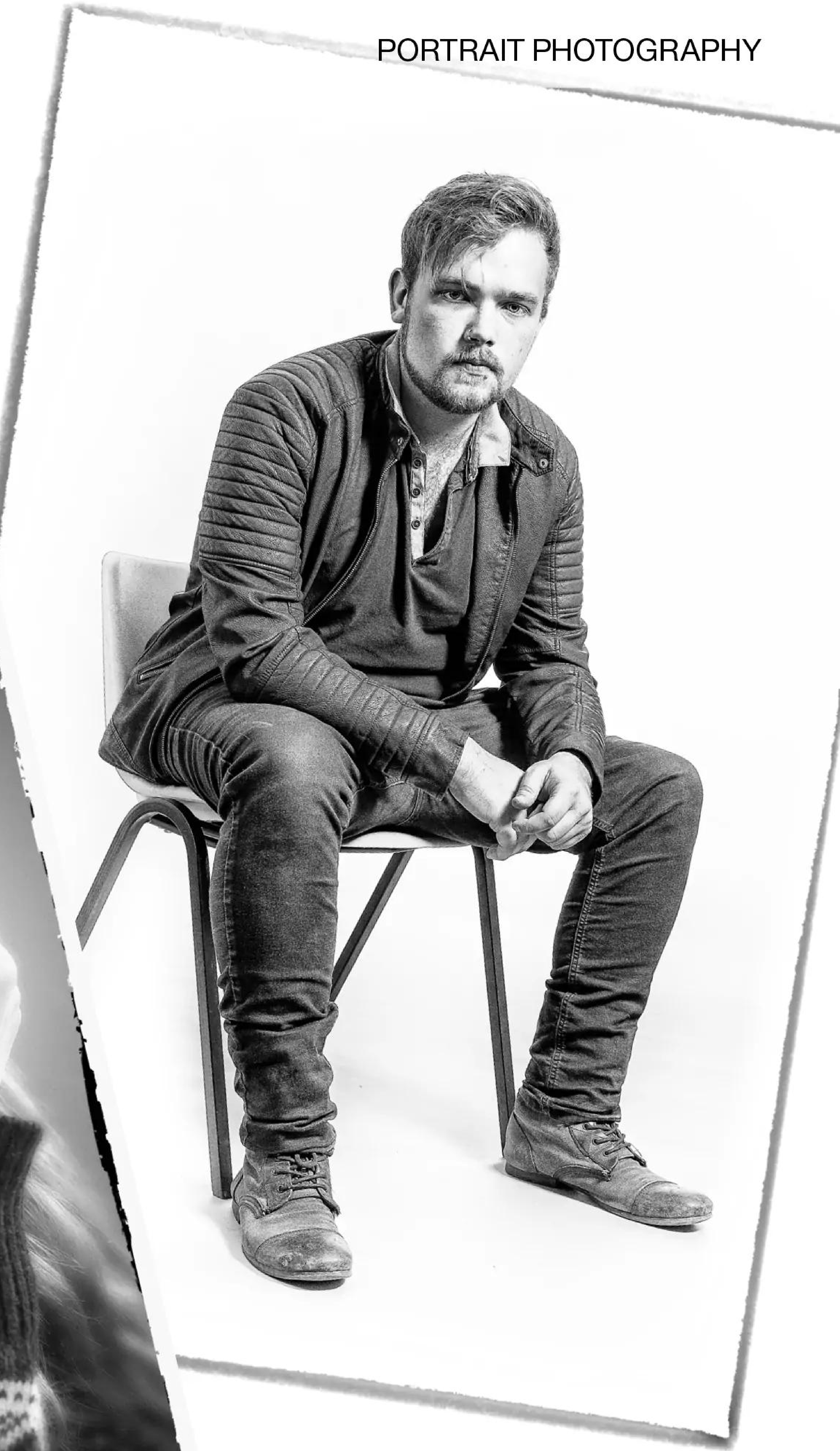
This low key portrait of Tim uses one light camera right and one reflector camera left. It is an adapted version of the short lighting portrait technique.

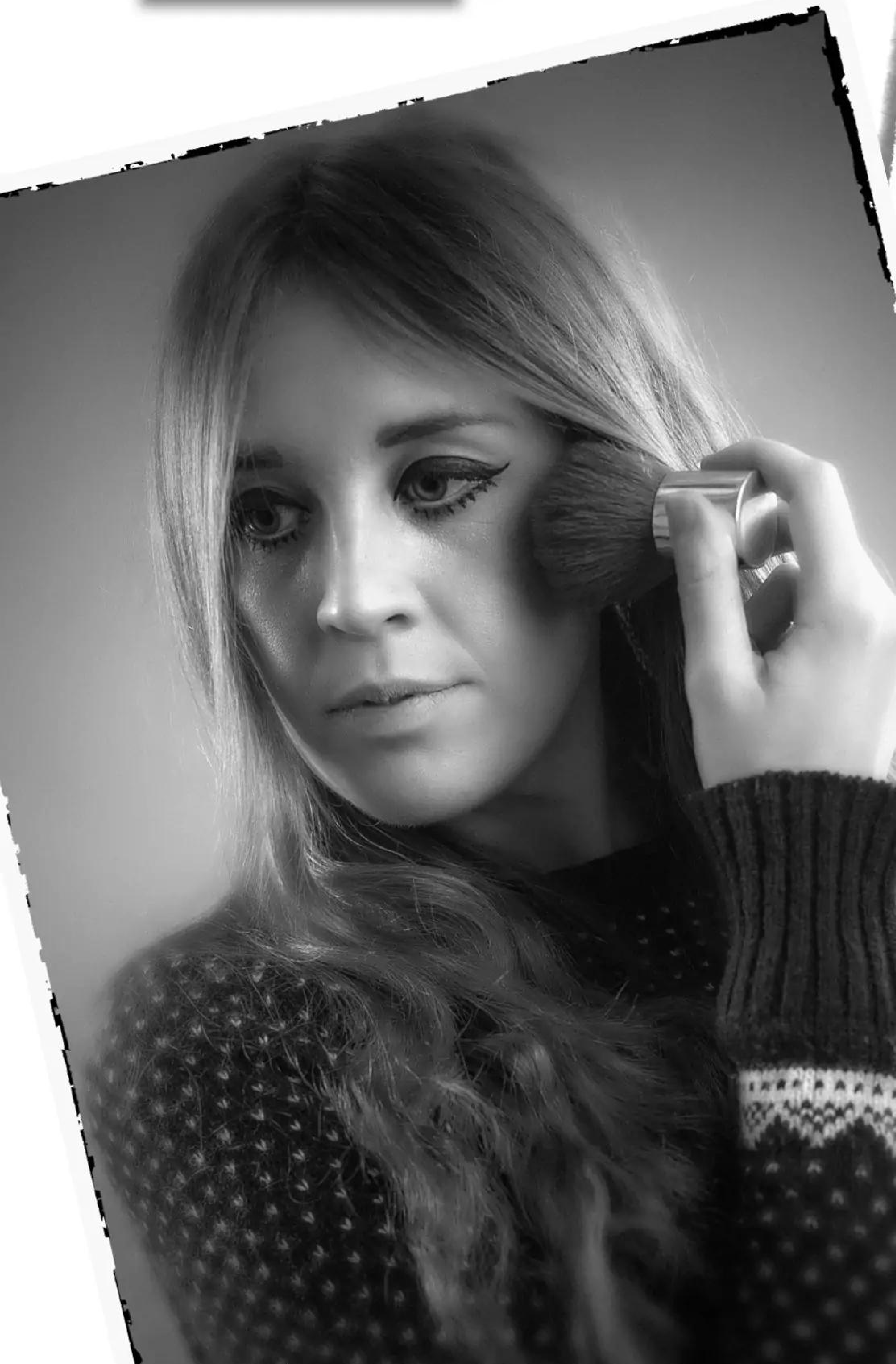
Canon 5DMK2 - EF24-105mm f/4
f/5.6 - 1/160- ISO 100

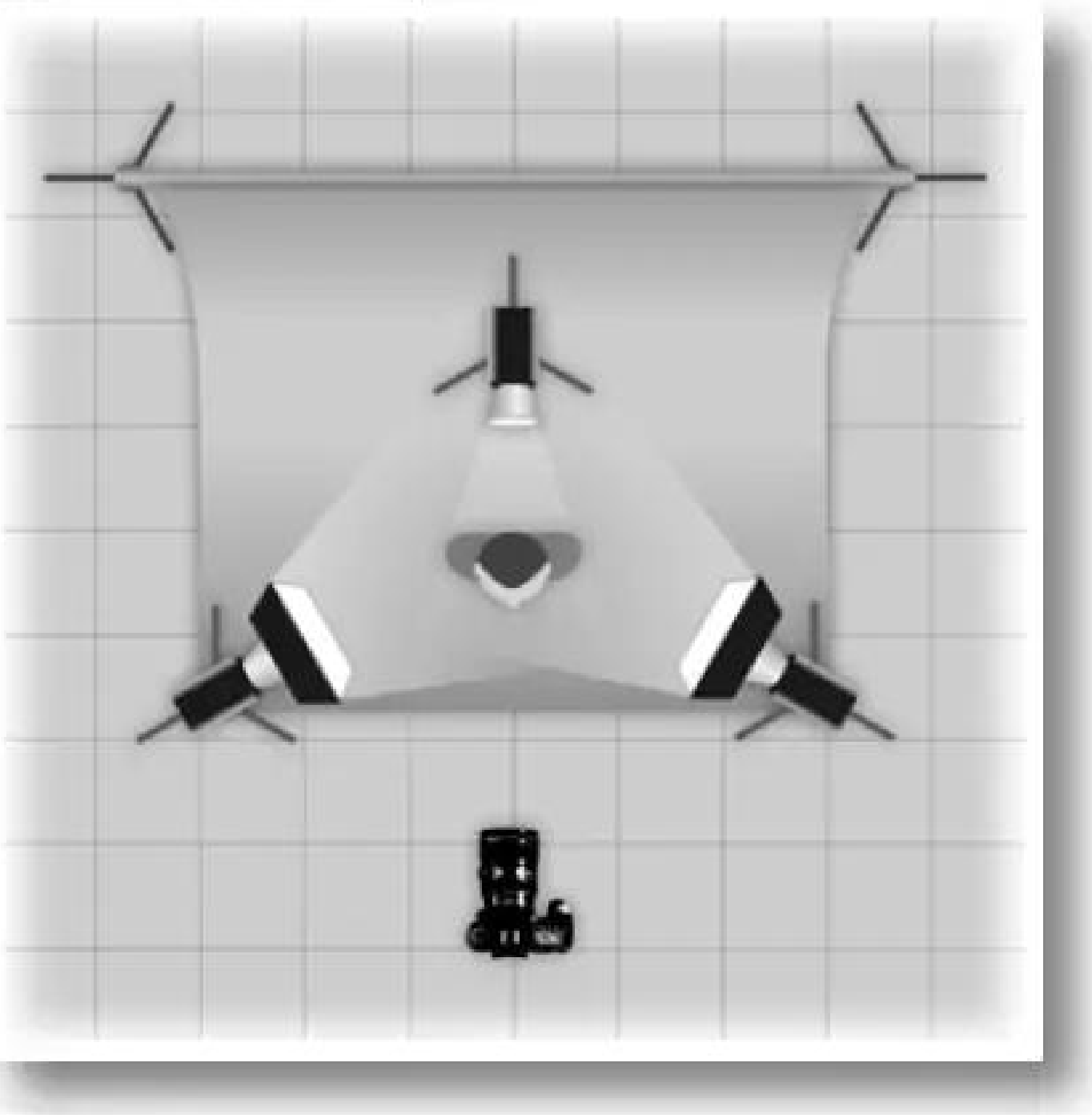


This high-key image of Oli was shot against a light grey background with enough light power to render it white. He was also lit either side by two key lights at high power to flood the foreground. High-key lighting is commonly a three-point setup. It was converted to mono where all white and mid-tone values were boosted to keep the image bright.

Canon 5DMK2 - EF24-105mm f/4
f/7.1 - 1/160 - ISO 100

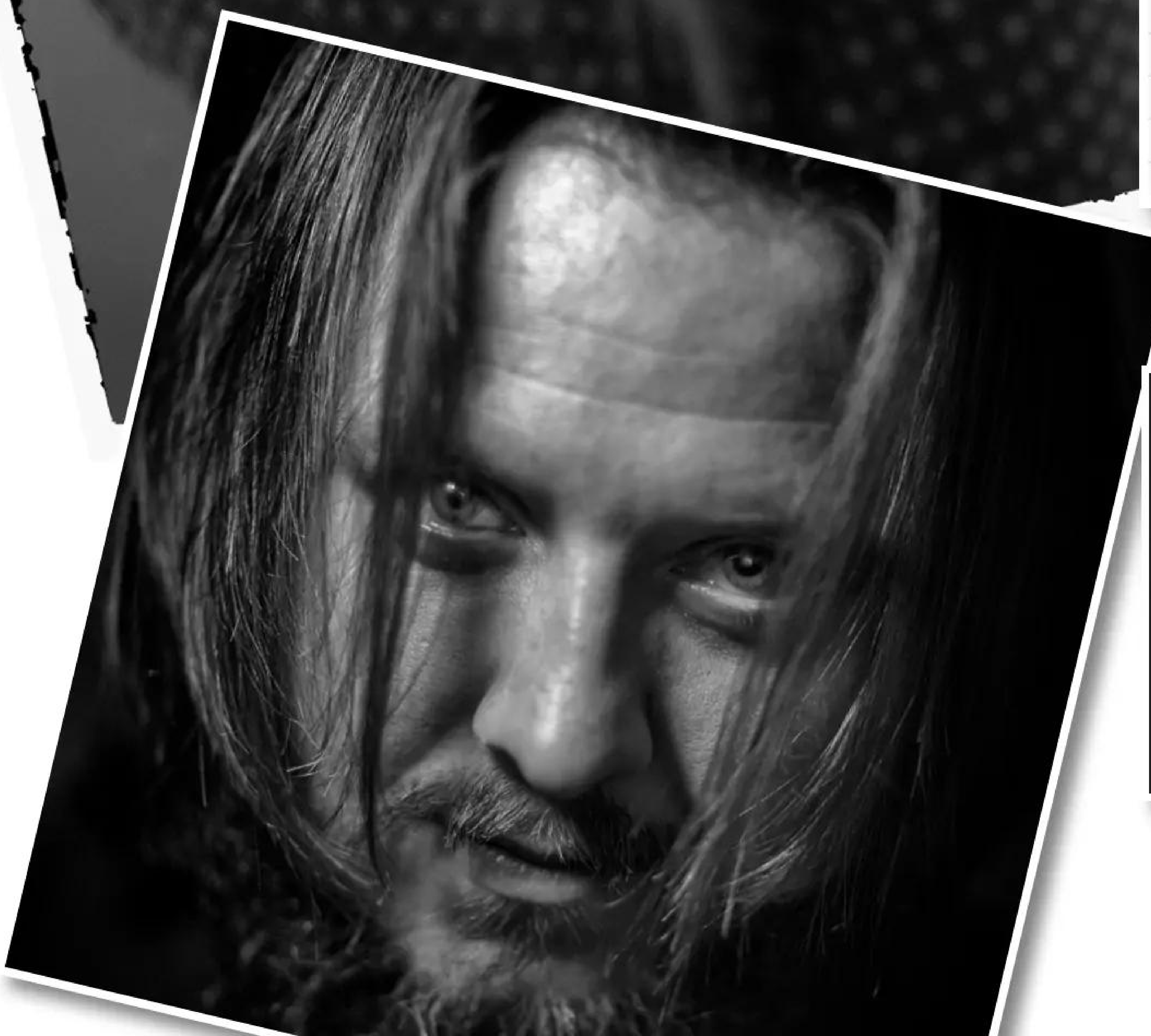


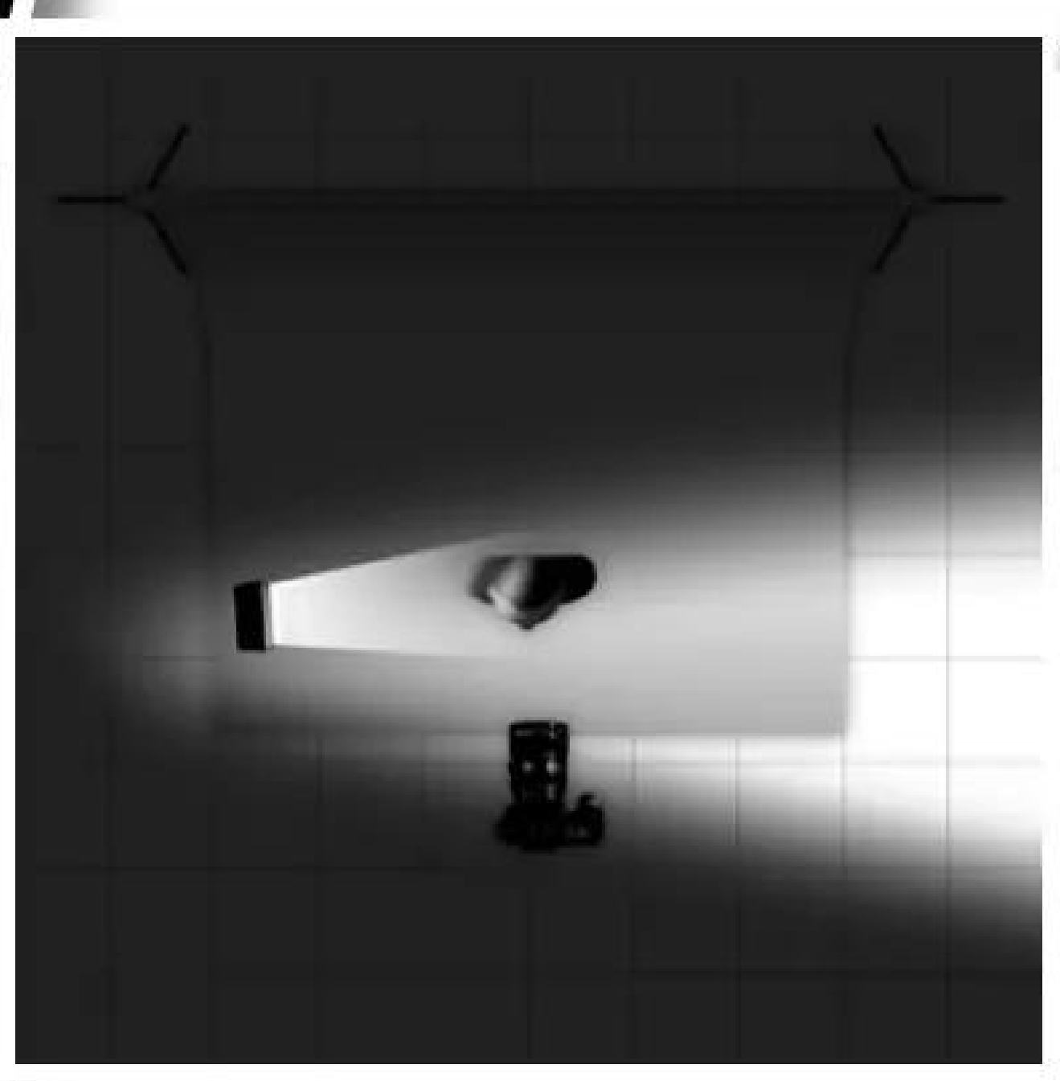




Gemma was shot with a three-point setup. The key light was to camera right, with the second light to camera left at half power. The position of both lights also provided a degree of highlights on her hair. The mono conversion was a simple desaturation and a levels adjustment in Photoshop.

Canon 1DSMK3 - EF50mm f/1.4
f/4 - 1/200 - ISO 100





Strong side-lighting creates n ominous, moody atmosphere in this shot of Steve. The beard and long hair cast shadows that would not be flattering in a female portrait, but work here for a darker, masculine shot. The shot was very dark, and the conversion to mono was adjusted to add more contrast.

Canon 1DSMK3 - EF85mm f/1.2
f/1.2 - 1/160 - ISO 50

Two rockabilly musicians Chris (left) and Yann (far left) pose for some headshots. Apart from a standard Photoshop mono conversion, the images were also tinted for an authentic sepia-toned feel that was in keeping with their style.

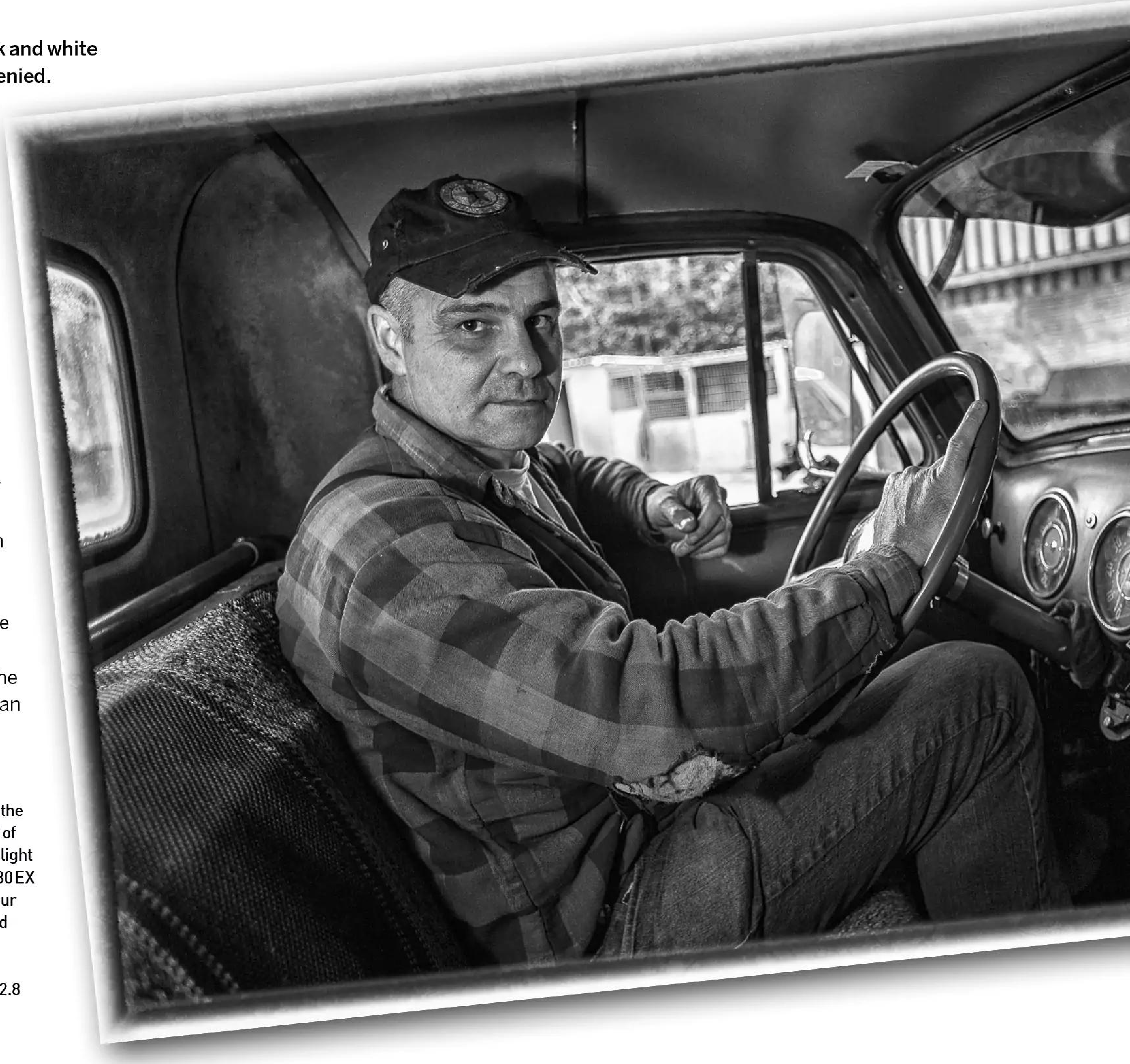
Canon 5DMK2 - EF24-105mm f/4
f/4 - 1/200 - ISO 50

Portrait photography tips

SOME GREAT TIPS TO HELP YOU PRODUCE STUNNING PORTRAITS

The power of the black and white portrait cannot be denied. A wise soul once said: 'If you want fashion, shoot in colour. If you want emotion, shoot in black and white.' As we've mentioned before, there is a power and depth to a black and white shot that is often swamped by colour.

The story behind a shot is easier to comprehend when it is in black and white and the distraction of colour has gone. Even if there is no real story being presented in the shot, you can suddenly find yourself paying more attention to a black and white portrait. Texture, form and tone become important to the shot. It draws you in more than a colour shot ever could. ■



Shades of Richard Avedon's 'In the American West' in this portrait of ex-trucker Tim. With available light supplemented by two Canon 580 EX Speedlites, the removal of colour gives it a more authentic, period flavour.

Canon 5DMK2 - EF16-35mm f/2.8
f/2.8 - 1/100 - ISO 200

> "As we've mentioned before, there is a power and depth to a black and white shot that is often swamped by colour."

In the colour original, Tim's shirt was red and the truck was green. It was a pleasing set of colours, but his period wardrobe and 50's Chevy truck needed something a little more gritty, hence the mono version.

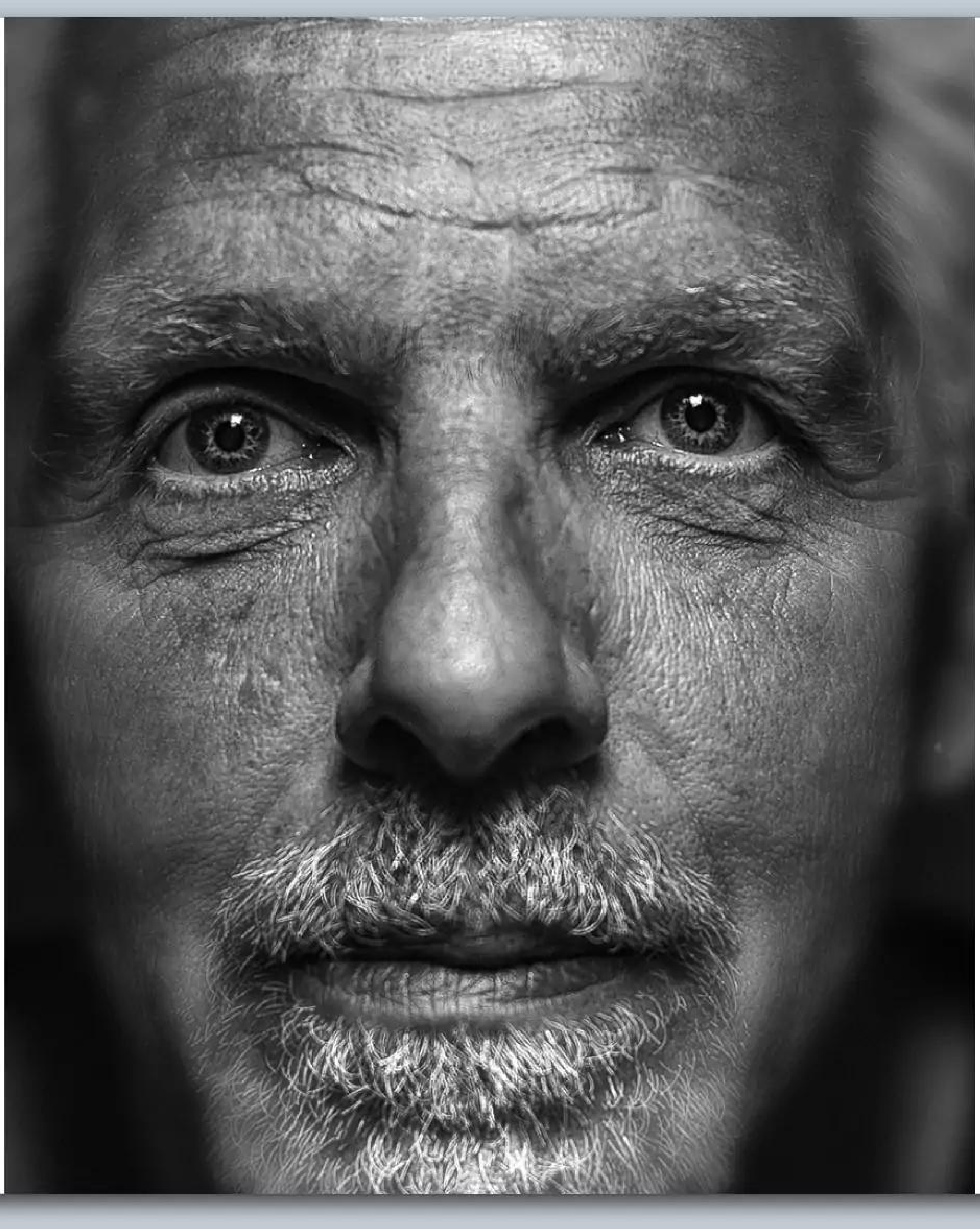
Canon 5DMK2 - EF16-35mm f/2.8
f/3.5 - 1/160 - ISO 50

Portrait photography tips

1

Eyes in focus

A basic rule in a close-up portrait is to have the eyes in focus. The eyes convey emotion - whether sad, happy, playful or mysterious. If the eyes are not in focus, then the connection to the subject is lost. That doesn't mean the subject must always be staring down the barrel of the camera lens. It is generally considered that if subjects are staring at the camera, they are portraying confidence or arrogance; if they are looking away, then they can be said to be nervous or mischievous. This is not always the case, but it can be a starting point in the portrayal of your subject. Even if the subject has their eyes closed, always think about making the eyes the point of focus. This can even be true when photographing non-human subjects. Dogs, for instance, are soulful creatures too, and our connection to them is through the eyes just like any person.



2

Point of view

It is quite common that nearly all portraits are taken at around the eye level of the subject. This is fine in most situations and is the staple of many portrait styles. However, sometimes it is great to change, so don't be shy in choosing other odd viewpoints. Think about getting low down and shooting up at your subject. Conversely, get up high and shoot down on your subject. Try mixing it up a little when shooting. Close-up portraits are fine, but perhaps there is a great shot to be had in a full-length portrait. Trying both landscape orientation and portrait orientation is also good practice. Don't be afraid to experiment; you never know what you will discover.

3

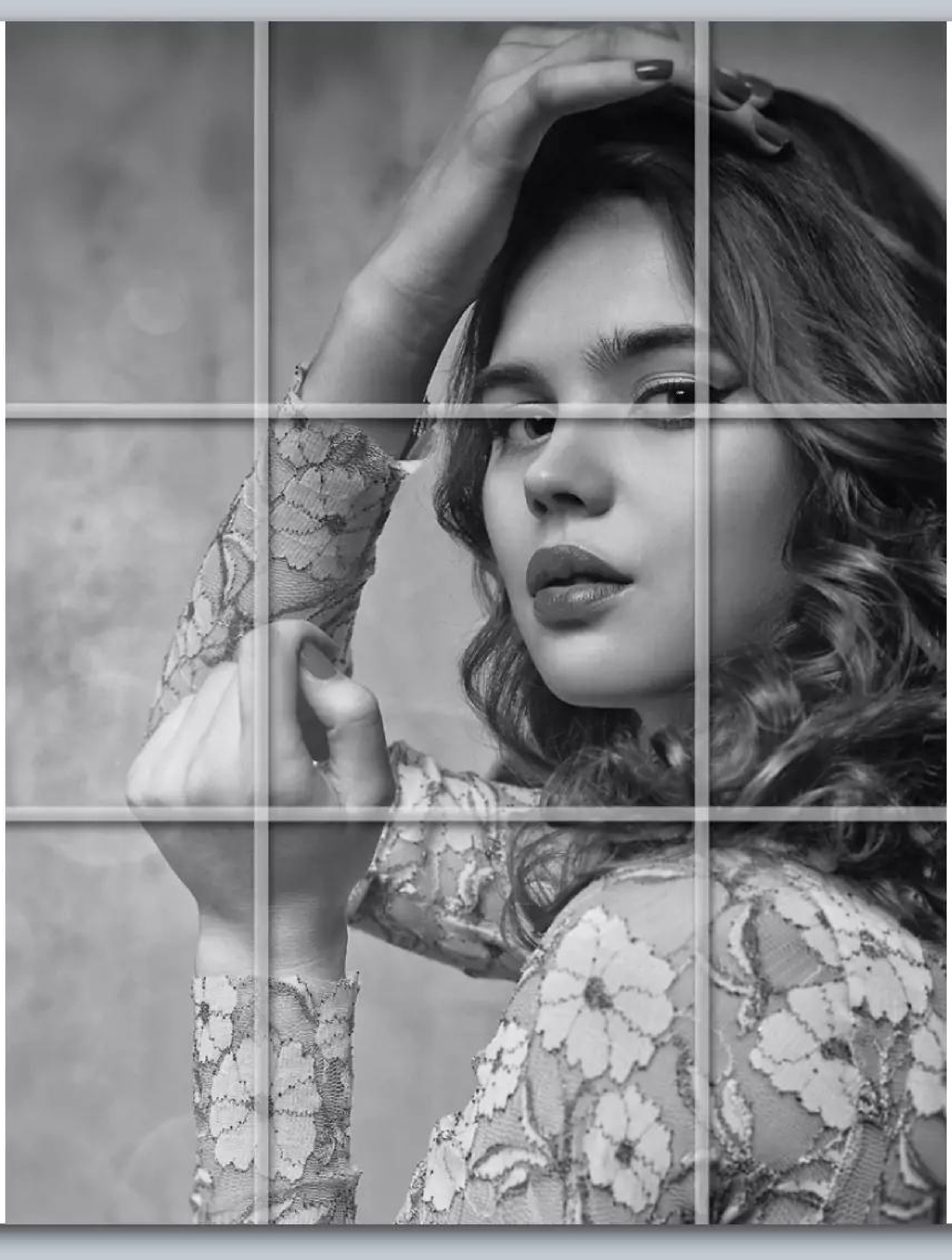
Location

The location is also important. If you shoot in a studio with a plain backdrop, then the story is told only by your subject's face. If you shoot on a location, then it too can help convey emotion or a context. Shooting a portrait of a fisherman on his trawler or a solitary guy propping up the bar are examples of how the location can expand upon the story being told. It can be argued that a subject on their own, in close-up with no background, is a head-shot; a subject photographed in an environment that is part of the storytelling, is a portrait. A subtle distinction, but perhaps true.

4

Composition

We have mentioned composition already, but it is worth mentioning again. Good composition can improve your shots in very subtle ways. Just where and how the eyes are placed within the frame of the shot, for instance, can add to the feel of the final image if they comply with the rule of thirds. There is conventional wisdom that states that a subject must have room to 'look into' a shot. Meaning that if they are looking left, the left of the shot has more empty space than the right. Now having just said all that, it's tempting to consider that rules are meant to be broken. Sometimes, odd placement of your subject in the frame can create a sort of visual tension that gives depth to the meaning of the shot. Having your subject's face dead centre can be quite a strong visual hook. You could also just have them barely in frame with one eye just keeping inside the border of the image. Who knows? You can have a bit of fun with your compositions and find an image that creates real wow factor.



Portrait photography tips

5

Lighting

Lighting is an interesting subject when shooting portraits for black and white conversion. There are so many different styles out there, it would be folly to try and pigeonhole one as being better than another. Light is there only to illuminate the story being told, or the emotion being captured. Just keep in mind the basics of lighting such as trying to avoid shooting in direct sunlight, as it creates harsh, dark shadows with no detail in them. Using a large white surface to reflect light back on to your subject will create a fill light that can lessen dark shadows. Alternatively, move to a more shaded area. If possible, avoid shooting with a camera-mounted flash, as you run the risk of getting ‘red eye’; this is where the light from your flash bounces of your subject’s retina back into the camera causing the pupils to look red.

6

Manual Mode

If until now you’ve been a ‘fully automatic’ shooter, it’s time to get into manual mode and out of your comfort zone. If you are working in consistent lighting conditions, on a sunny day or in a controlled environment with studio lights, or constant artificial illumination, choosing manual settings will present no problems. Just choose a group of parameters that yield the kind of exposure you want and shoot. Shots will be more consistent this way, as your camera won’t be second-guessing every exposure every time and altering settings without you knowing. Also, try using just one centre AF point, rather than letting the camera decide. This method of single AF ‘focus and recompose’ is a great place to start losing the habit of letting the camera make the choices. Only if you are using insanely shallow depth of field would ‘focus and recompose’ present an issue.

Fotoliox
Fotoliox

7

Lens choice

Also, give some thought to the lenses you use. Wide-angle lenses are not considered appropriate for close-up portraiture as they distort the features; but a good 50mm, 85mm or even 135mm prime lens is used for portrait work. Watch out for too much depth of field; it can be a great distraction for your background to be as sharp as your foreground. A little blur in your background is a great way to separate your subject from their surroundings, keeping them the focus of the shot. Also, keep your eyes peeled for the classic error that can crop up, where an item in the background appears to be sprouting out of the top of your subject's head.

CANON LENS EF 85mm 1:1.2 L II USM
85mm
CANON LENS EF 50mm 1:1.2 L USM
50mm
AF
MF

8

Why prime lenses?

Fast glass is much prized in the world of portraiture. Fast glass refers to the fact that a particular lens is capable of shooting at very large apertures, letting in more light and offering faster shutter speeds in low-light conditions. As mentioned in the last item, a good portrait lens that has a maximum aperture of f/2.8 - f/1.2 is fantastic at creating the background blur so sought after by photographers. The quality of defocussed light this blurring produces is referred to as bokeh (pronounced boh-keh). The ability to shoot at f/1.2, for instance, means you can shoot more natural light portraits, without the reliance on strobes. Prime lenses from 50mm focal-length and up are the best choices. Because of their simpler lens configurations, image quality is better and they offer larger maximum apertures over their zoom counterparts.

640 WS
B1600
ALIENBEES

Using flash, studio lights and modifiers

LIGHTING GUIDANCE FOR YOUR BLACK AND WHITE PHOTOGRAPHY

If you find you are getting serious about shooting portraits, but you have been limited to shooting with available light only, why not consider getting yourself a couple of flashes? The ability to control your own lighting is key to adding an extra level of creativity that shooting with ambient light alone can't offer. There is a saying that if a serious photographer is shooting a portrait with ambient light alone, and standing next to him is a complete amateur with a similar camera and lens setup, chances are high that they could produce broadly similar shots (we will forego the fact that chances are equally high the amateur's sense of composition and ability to focus accurately may have a bearing). The fact is, you may find you need something extra to separate you from the casual photographer. Flashes are a relatively inexpensive way to start your journey.

When you take a shot, the shutter opens, the flash fires, the shutter closes. That is a huge over-simplification but it is important to note that you have just taken two exposures. When the shutter opens, the camera records any ambient light as well as the illumination provided by the flash. Now, depending on your settings, environment and flash output, the amount of ambient light may be very noticeable or barely perceptible. If you shoot indoors in a dark room it stands to reason that the amount of ambient light will be low or non-existent and the illumination for that scene will only come from the flash, unless you alter your shutter speed to an extremely long exposure setting. However, shutter speed does not affect the flash output during the exposure as it delivers the flash instantaneously. Another factor you need to be aware of is synchronisation.

Cameras and flashes are limited by the speed they can operate together. At shutter speeds higher than about 1/250 of a second, the synchronisation of the flash output and the shutters fully uncovering the sensor at the right moment starts to break down. Faster shutter speeds mean that you start to capture your shutter mechanism before it has had time to move out of the sensor's way, and this is recorded as a black bar on your shot. Push the shutter speeds higher and this black bar creeps higher into the image as flash and camera go further out of synchronisation. Bear this in mind when using flash. You will need to work on, or below, the recommended sync speed of your camera/flash setup.

Flashes are great; many are very cheap. They can provide a light source in very dark situations when there is not enough light to give you any useful camera settings to reliably capture an image. The main drawback with a flash, particularly if it is mounted to your camera, is that because the flash head is a very small light source, shadows tend to be quite harsh and your subject will often have the telltale 'rabbit in the headlights' look. Getting your flash off the camera, either via a wireless trigger, or an off-camera sync cord, is a key first step to avoiding the bleached, harsh-shadowed look of your shots. You can bounce your flash off an adjacent surface, such as a wall or ceiling. This surface becomes the new, and larger, light source. The main factor that governs shadow softness, is the size of the light source and its distance from the subject. Softer shadows require a larger, closer, light source in order to soften the transition from deep shadow, to a fully lit area.

That is all good information. However, you will not always have a surface to bounce off, and this is the moment you could consider lighting modifiers for your flash. A lighting modifier is just that. It is an object, surface, or material that alters the way the light travels from its source to the subject. If you shoot with an un-modified flashgun, the light that is emitted is traveling in a concentrated beam from a very small light source. If this light passes through a modifier, such as a softbox, the light is diffused, scattered and less concentrated. A modifier can also turn a small light source into a large one. A flash, fired from several feet away onto a large translucent material, for instance, creates an illuminated hot spot that is much larger than its source. This is the basis of light modification, so read on for more details. ■

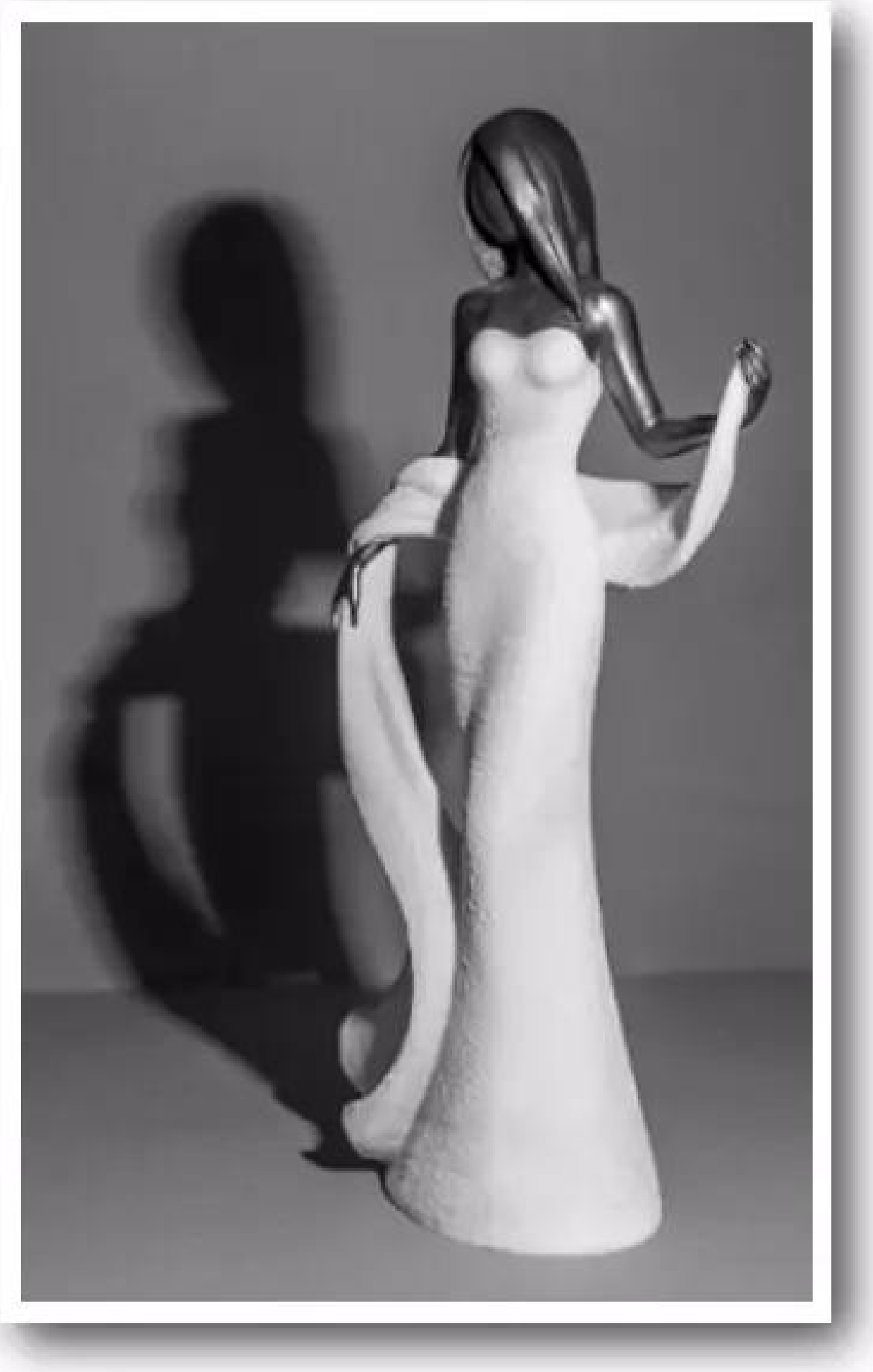
> "The ability to control your own lighting is key to adding an extra level of creativity that shooting with ambient light alone can't offer."

Types of light modifiers

1

Unmodified flash

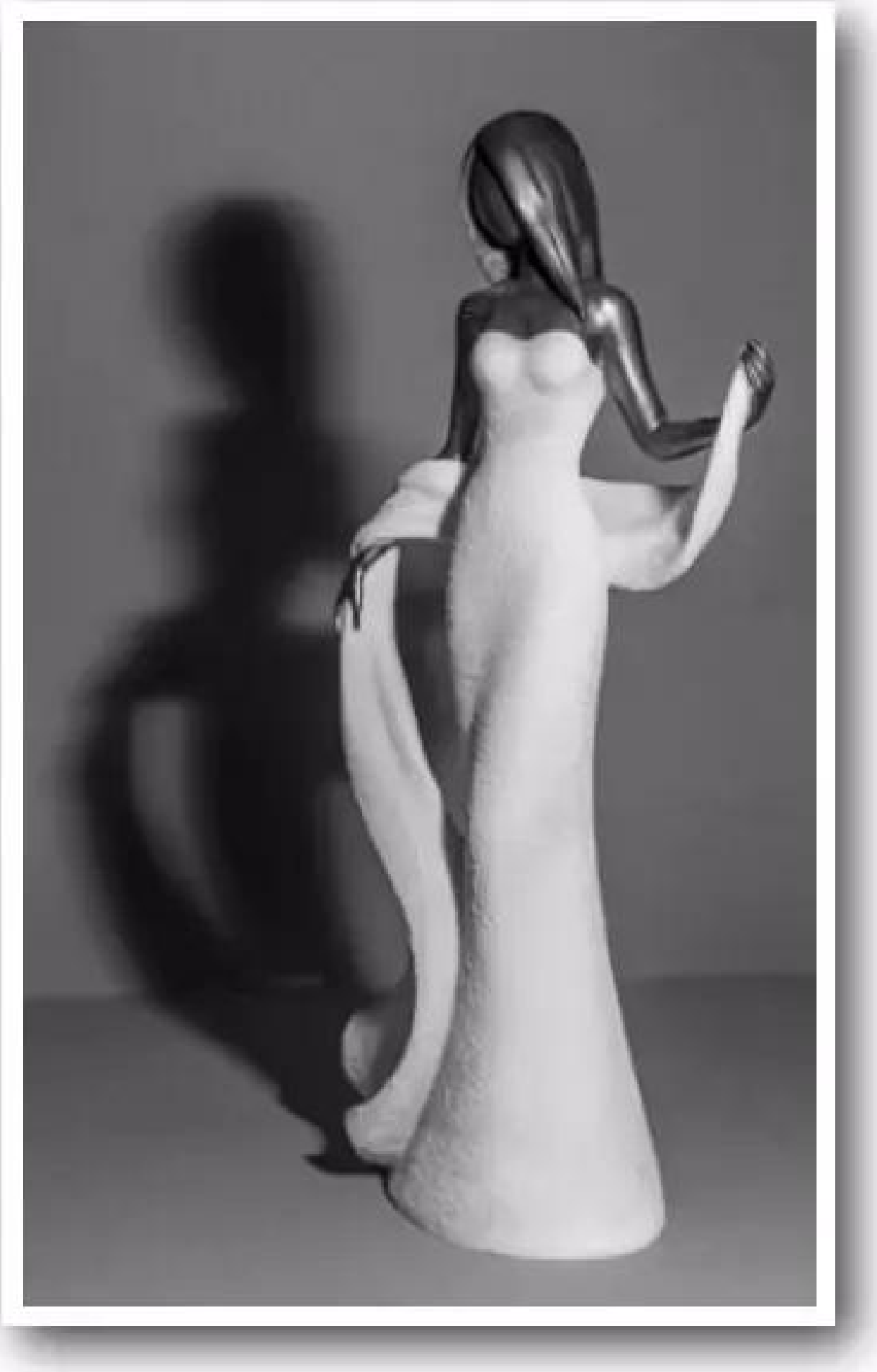
This is our default with which to compare the other types of light modifiers. Shadows falling on the subject are quite sharp and dark. The flash also creates a fairly well-defined and deep shadow behind the subject. Flash coverage can be altered to a certain degree by being able to ‘zoom’ the flash tube back and forth inside the flash head housing to match zoom settings on your lens.



2

Flash with wide panel

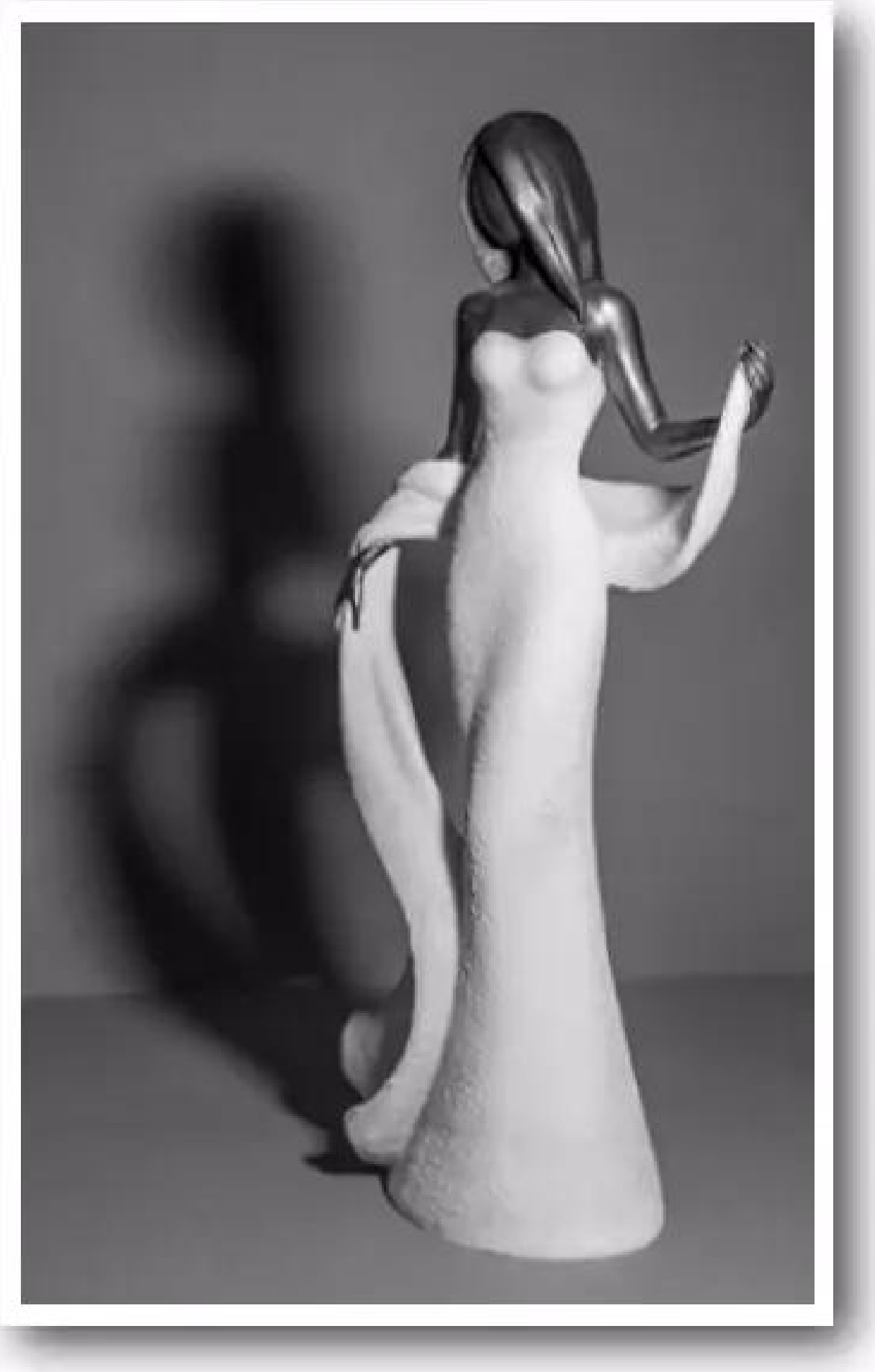
The wide panel is a small built-in diffuser that can spread the flash output wider. Particularly useful if you are shooting a large group of people with a wide angle lens and need wider lighting coverage. Note that the shadows are largely the same as the unmodified flash with perhaps a slight softening of the transition from deep shadow to full illumination. Because the light is scattered wider, the darkest parts of the shadow are slightly brighter because of a small amount of light bouncing back into the scene. There is also a drop-off in intensity which would have to be compensated for.

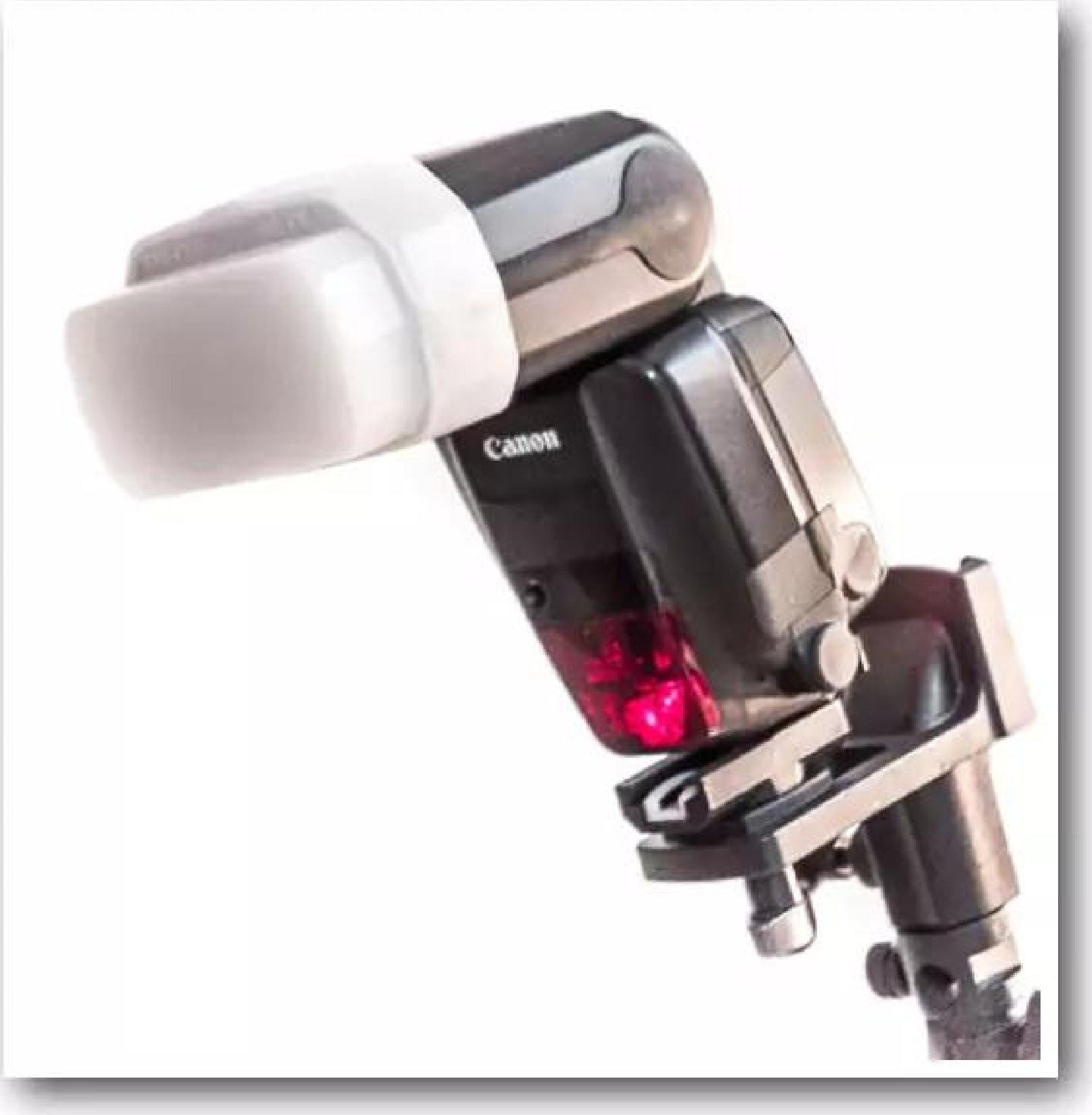


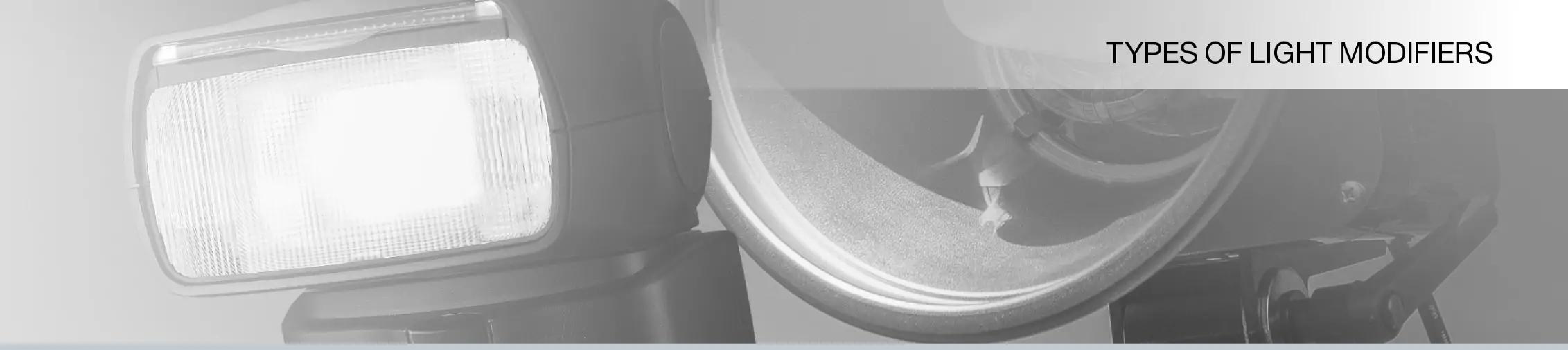
3

Omni-Bounce

In effect, this is a tiny softbox that covers the head of your flash. It enables light not only to emit forwards, but also around the sides. This gives a closer approximation of a bare bulb and allows for wider lighting coverage at the expense of reduced flash power because not all the light is thrown forward. Even from a relatively short distance, there is a visible difference in shadow softness. They are not quite as sharp, and the transition from shadow to full illumination is smoother compared to the previous examples.



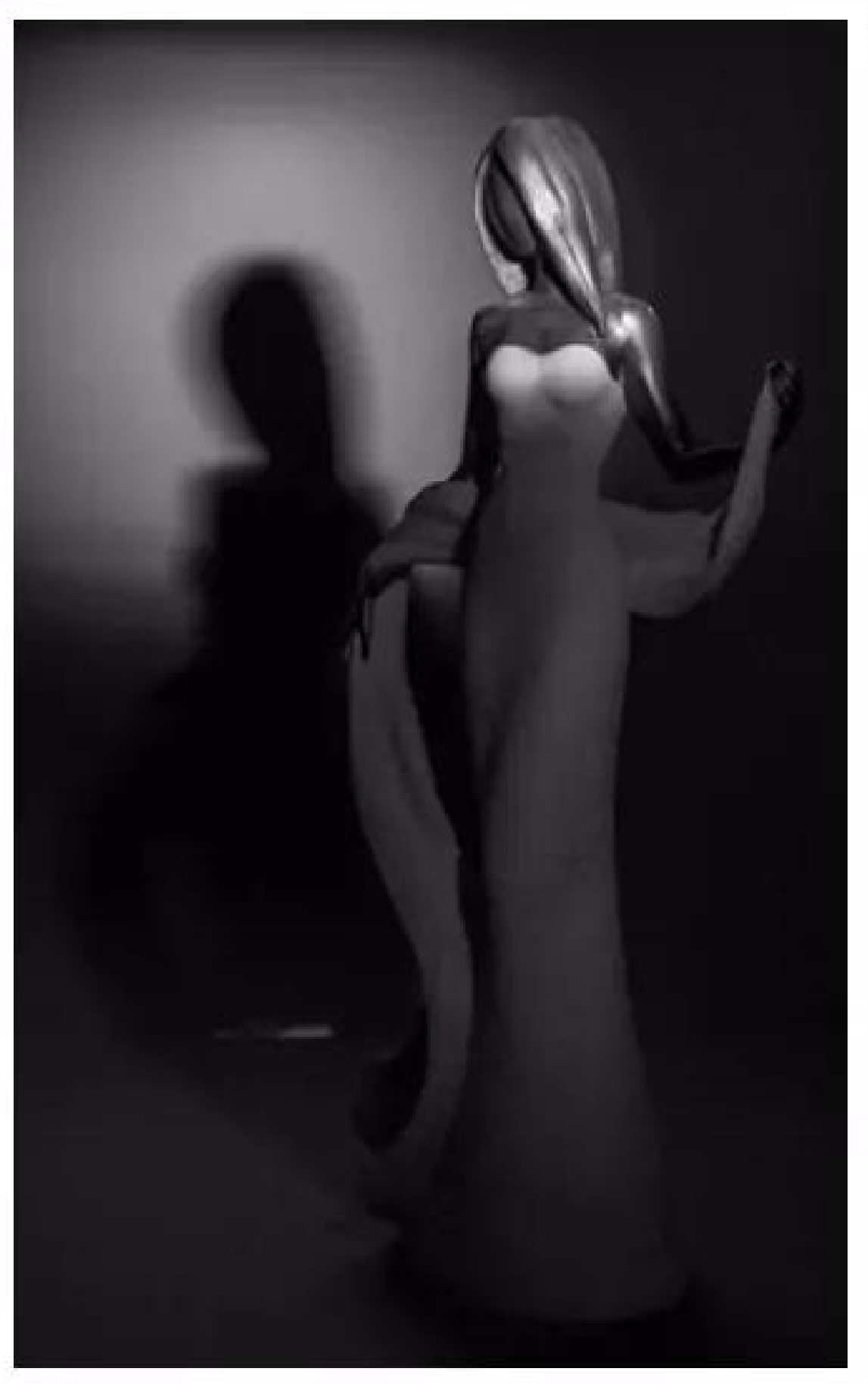


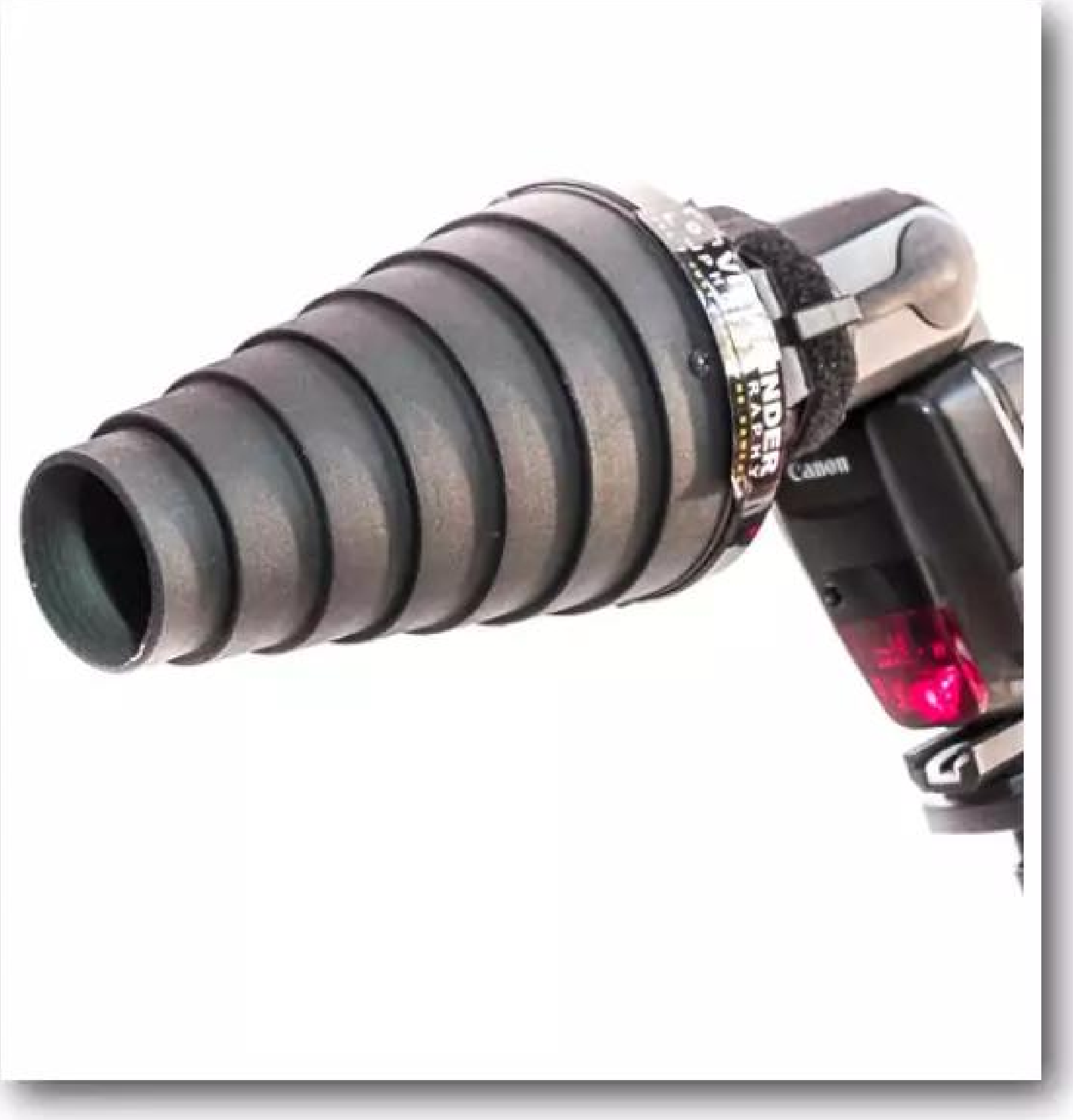


4

Snoot

A snoot is a tube that concentrates the light output of your flash. It gives the resulting beam a searchlight quality that creates a tight pool of light, ideal for highlighting a small part of your scene. Moving the flash further away will enable you to define a larger spotlight. Because the beam of light is so narrow, the rest of the scene is in relative darkness. Because the light is effectively reduced in size, the shadows it creates in our example are fairly sharp once again.

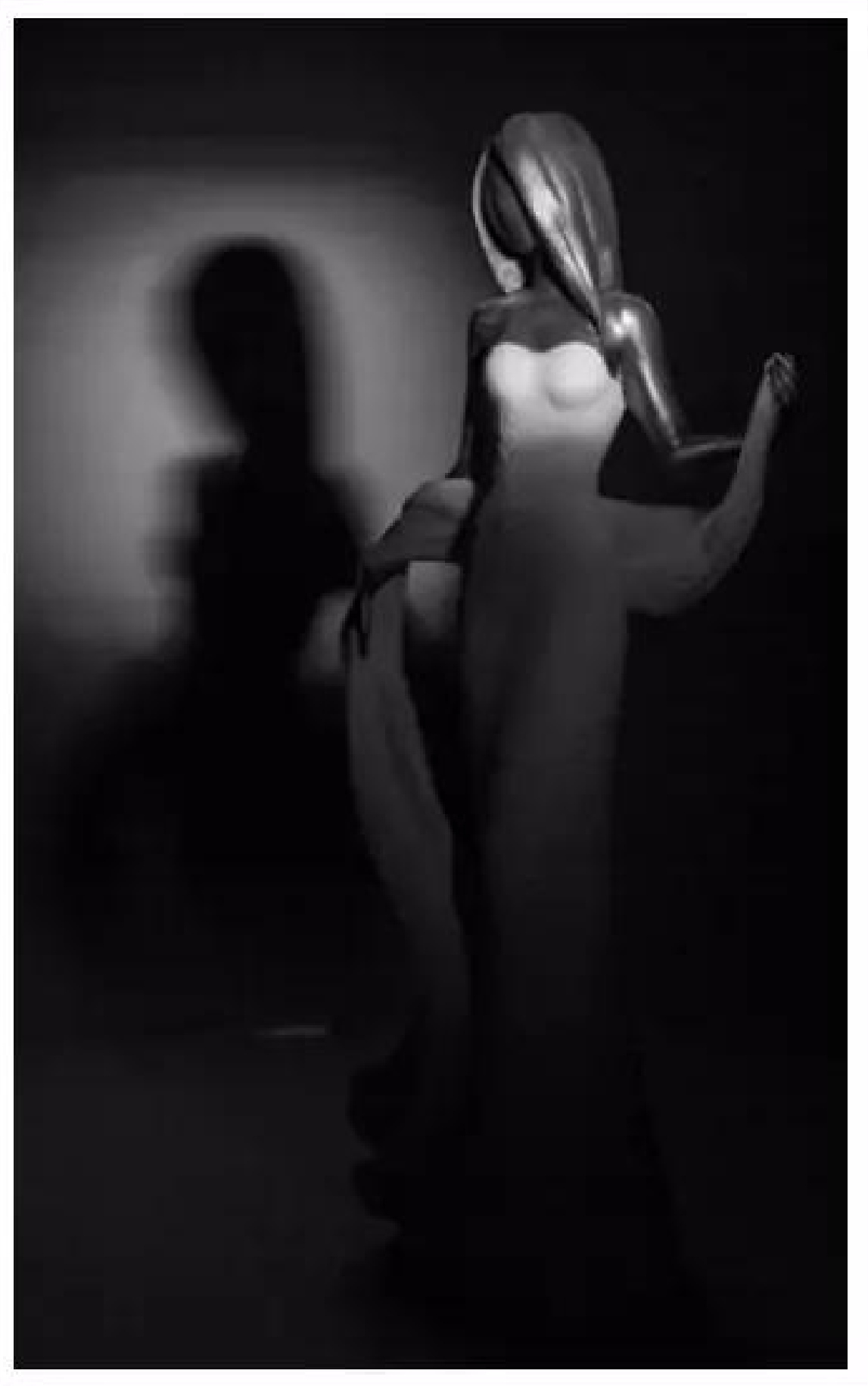


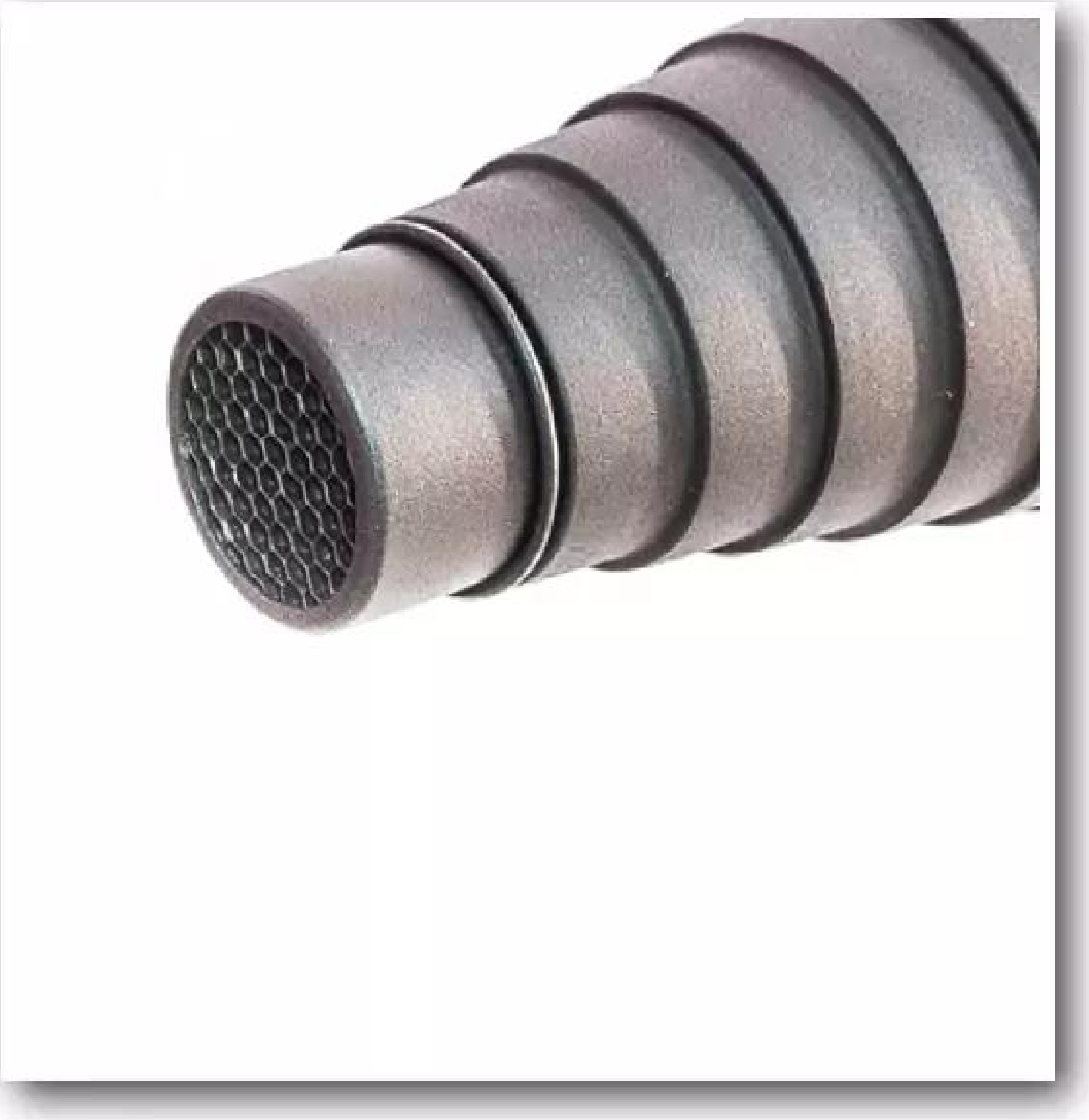


5

Snoot with honeycomb disc

The honeycomb disc, when added to the end of a snoot, has two major effects. It reduces the illumination of the flash, and creates a much more directional light with less light spillage. The image is generally darker, the spotlight is tighter, but shadows are broadly the same as the snoot image before the disc was added.

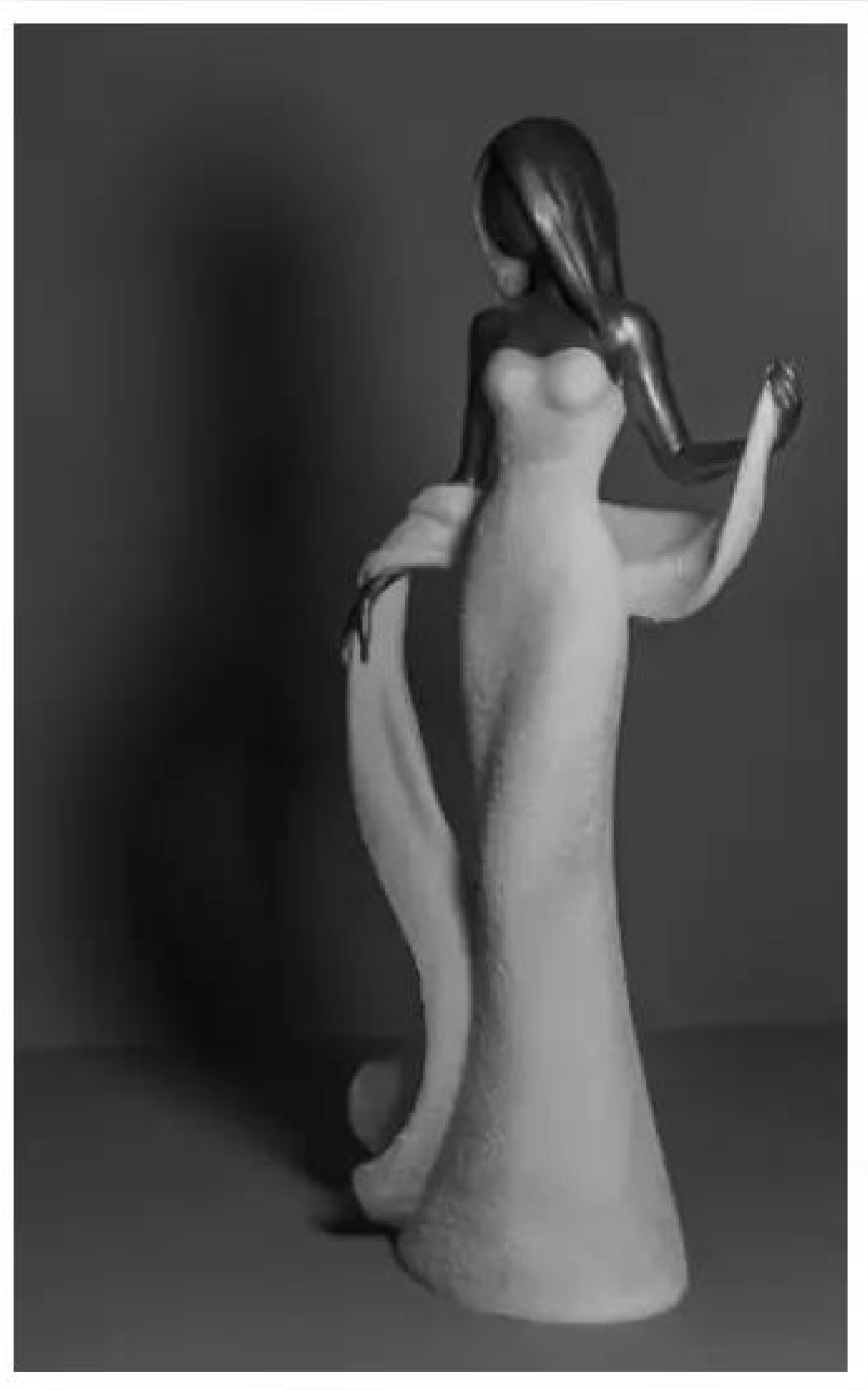


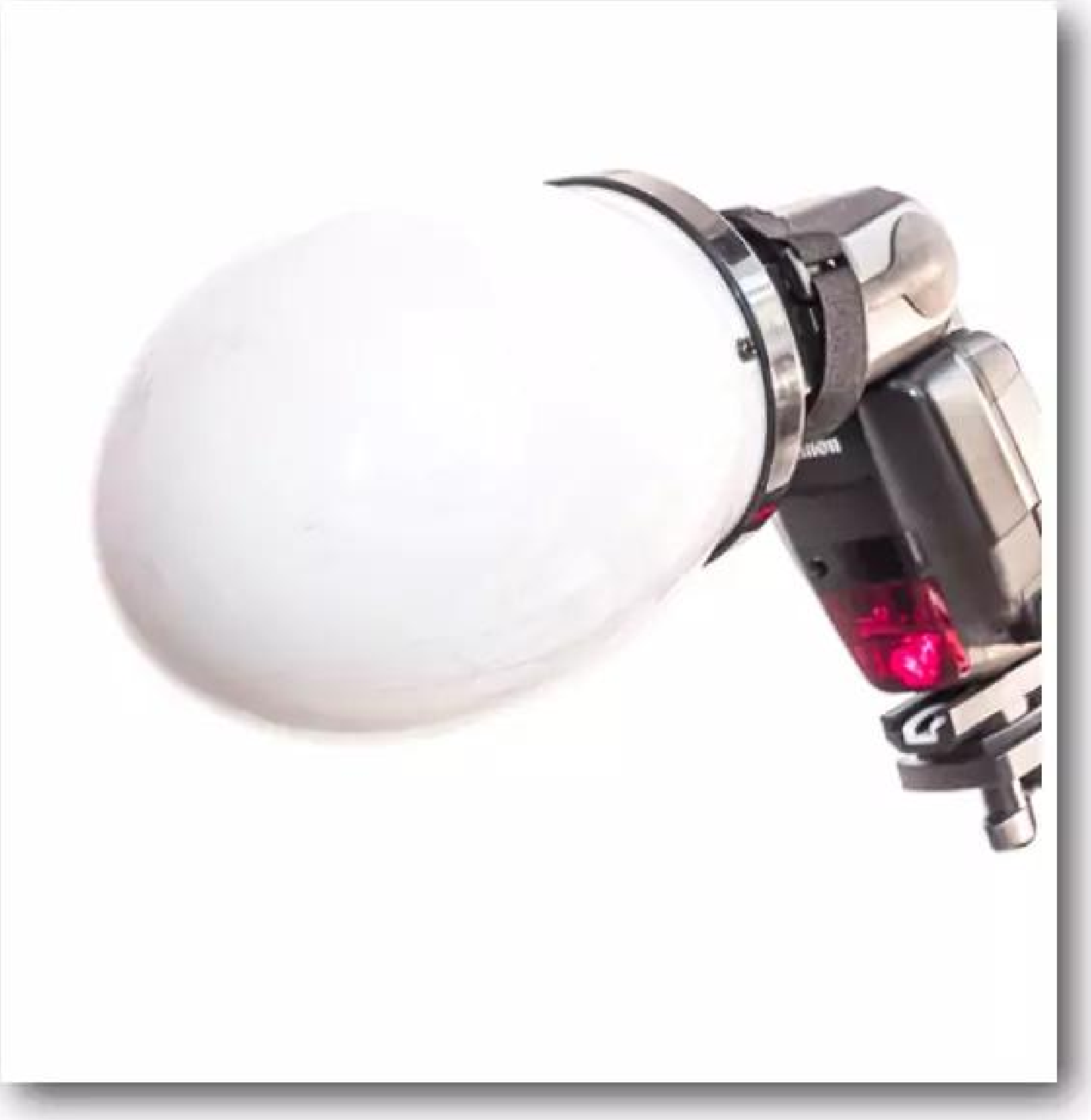


6

Dome diffuser

The dome diffuser takes the idea of the omni-bounce and expands upon it. The larger physical size of the dome allows you to use it like a true, large, bare bulb. With it, you can illuminate larger areas with a more even light source. Bear in mind that, like the omni-bounce, light is spread in all directions so your subject illumination will appear diminished. That said, our example with the dome shows a marked improvement in shadow softness, both on the subject and the shadow she is casting.



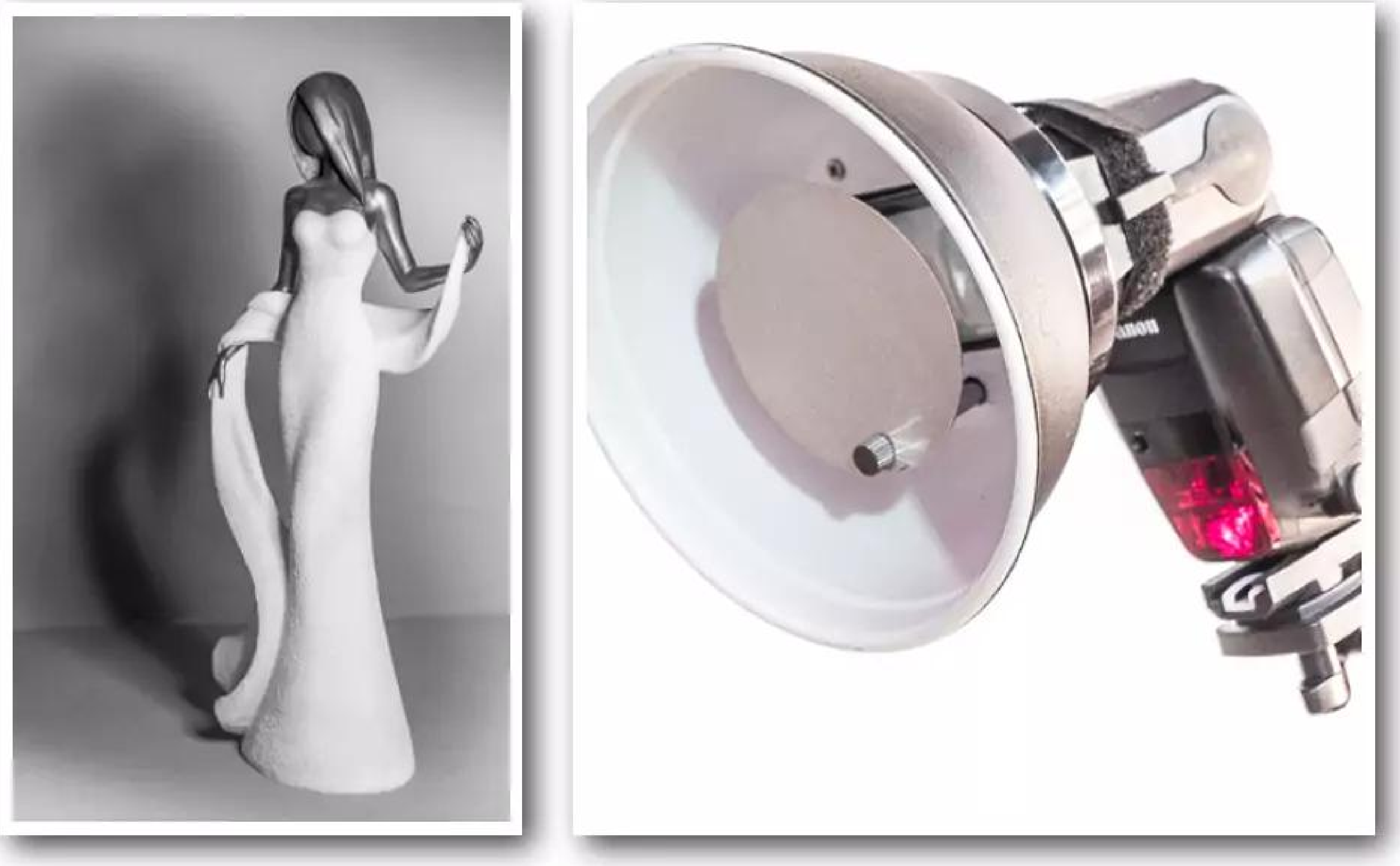


Types of light modifiers

7

Mini beauty dish

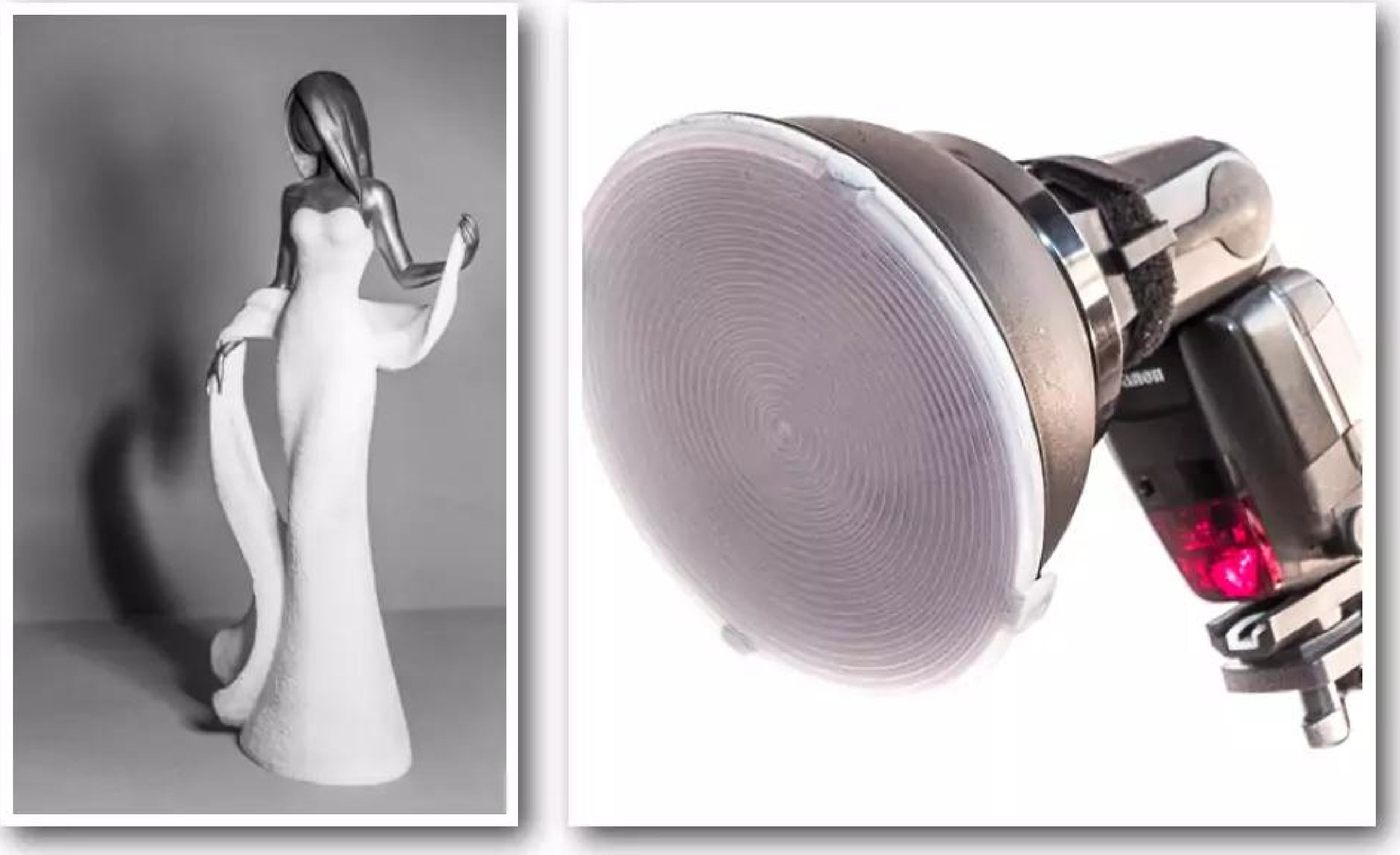
The mini beauty dish is comprised of two main elements. The dish itself, which can be white or silver, and the small deflector dish which sits inside the dish and bounces the light from the flash onto the side surface of the dish, which then throws the light forward. It creates a larger apparent light source which helps to create slightly softer shadows. Beauty dishes, as the name might suggest, are used very often in fashion shoots, albeit much larger versions than the one used here. Shadows can be softened quite well, once again at the expense of reduced flash power.



8

Mini beauty dish with front diffuser

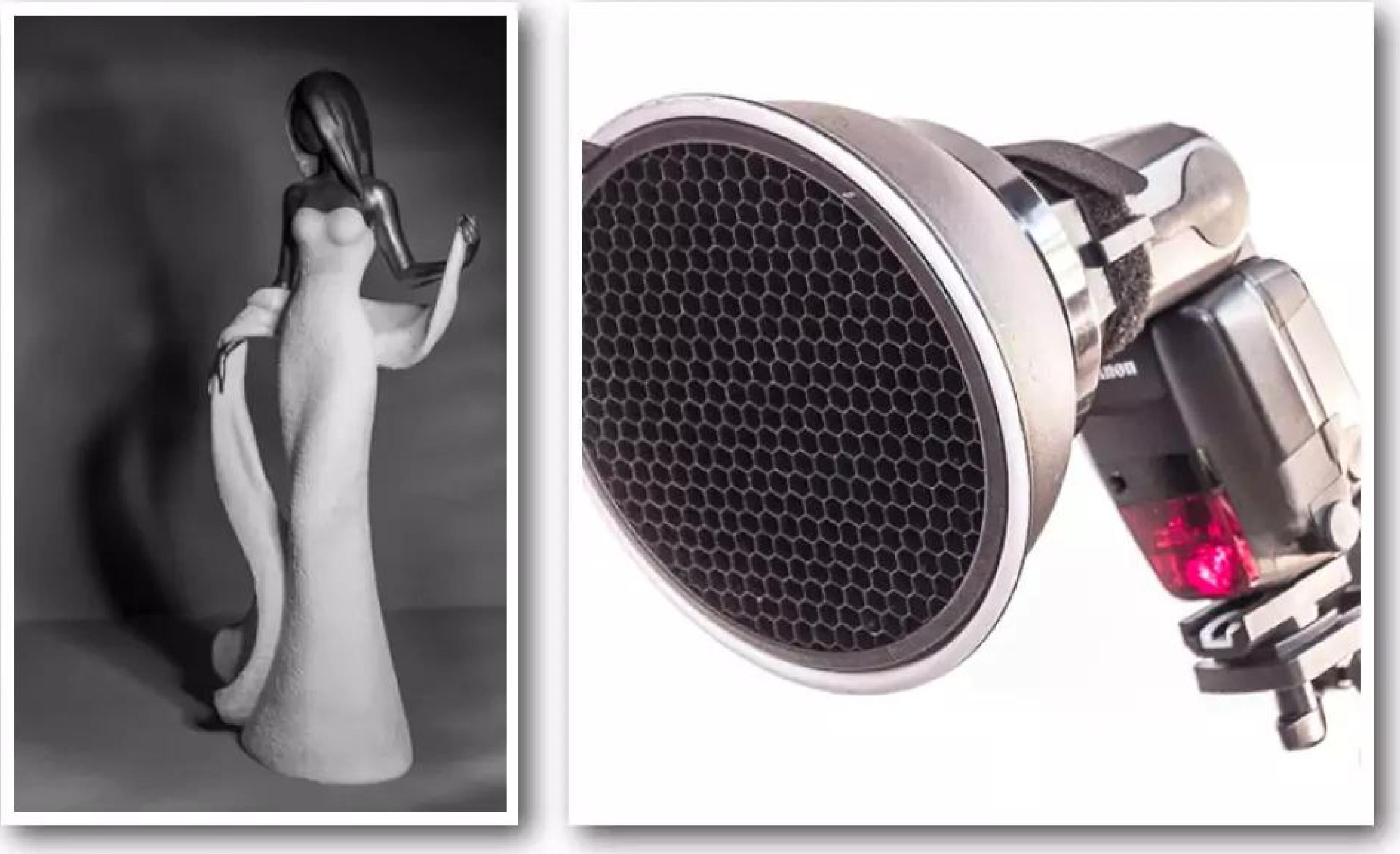
This has the same setup as the previous configuration, with the addition of a translucent diffuser disc that covers the front of the dish. It is used to diffuse light even more so it is less directional. You will lose additional flash power because of the wider scattering of light, and will have to adjust flash and camera settings accordingly. On full-sized beauty dishes, the translucent covering is referred to as a 'sock'. Compared to the previous setup, the shadow areas of the test shot are less defined.

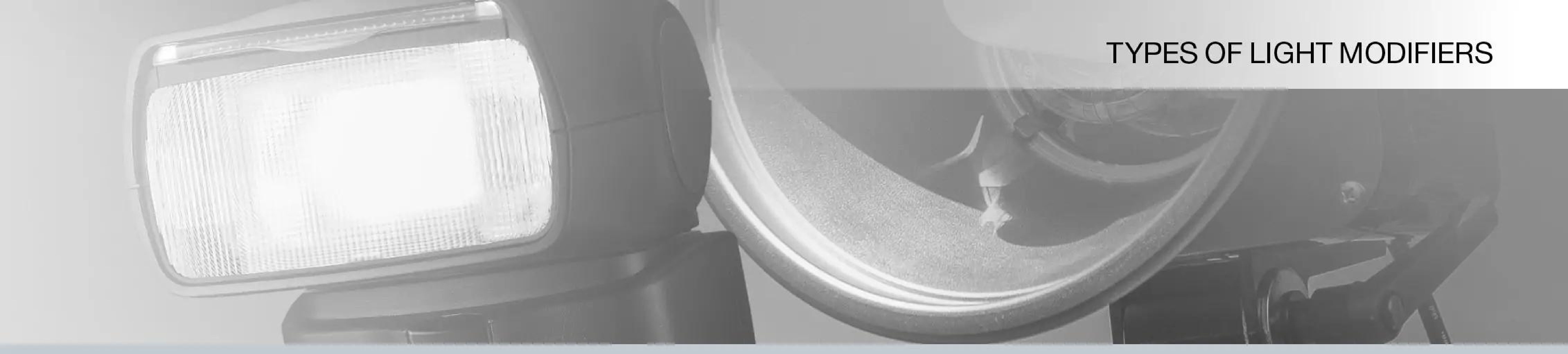


9

Mini beauty dish with honeycomb disc

If you want more directional light from your beauty dish, you can always add a honeycomb disc. Honeycomb discs are just add-on panels that have a mesh of hexagonal holes. This arrangement acts to shape the light and can reduce or even eliminate light spill. It transforms the light emanating from the dish into a much tighter beam. Much less light will spill out and be lost; and as mentioned before, it will create a spotlight effect and also greatly reduce the brightness emitted by the flash.

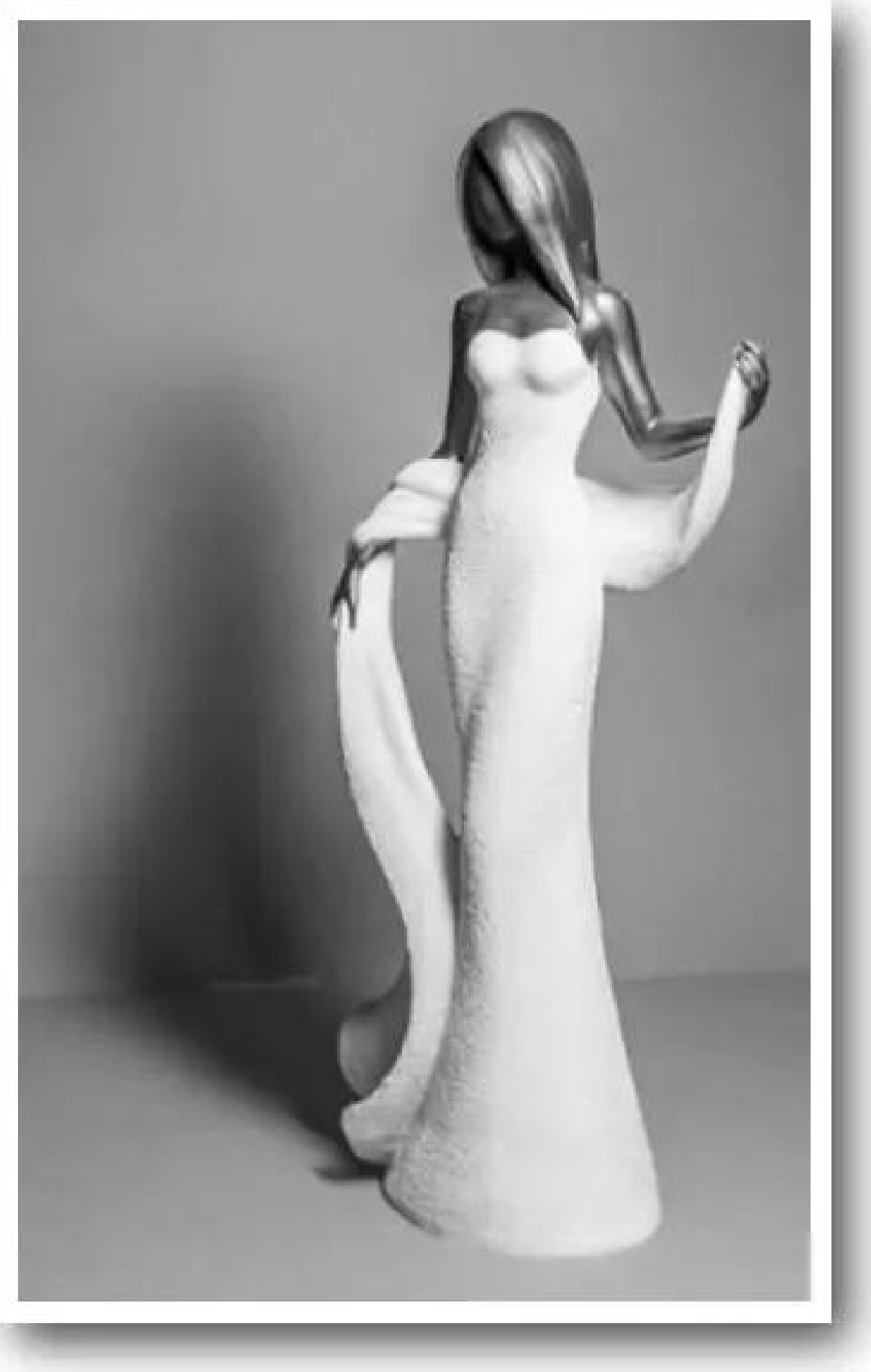


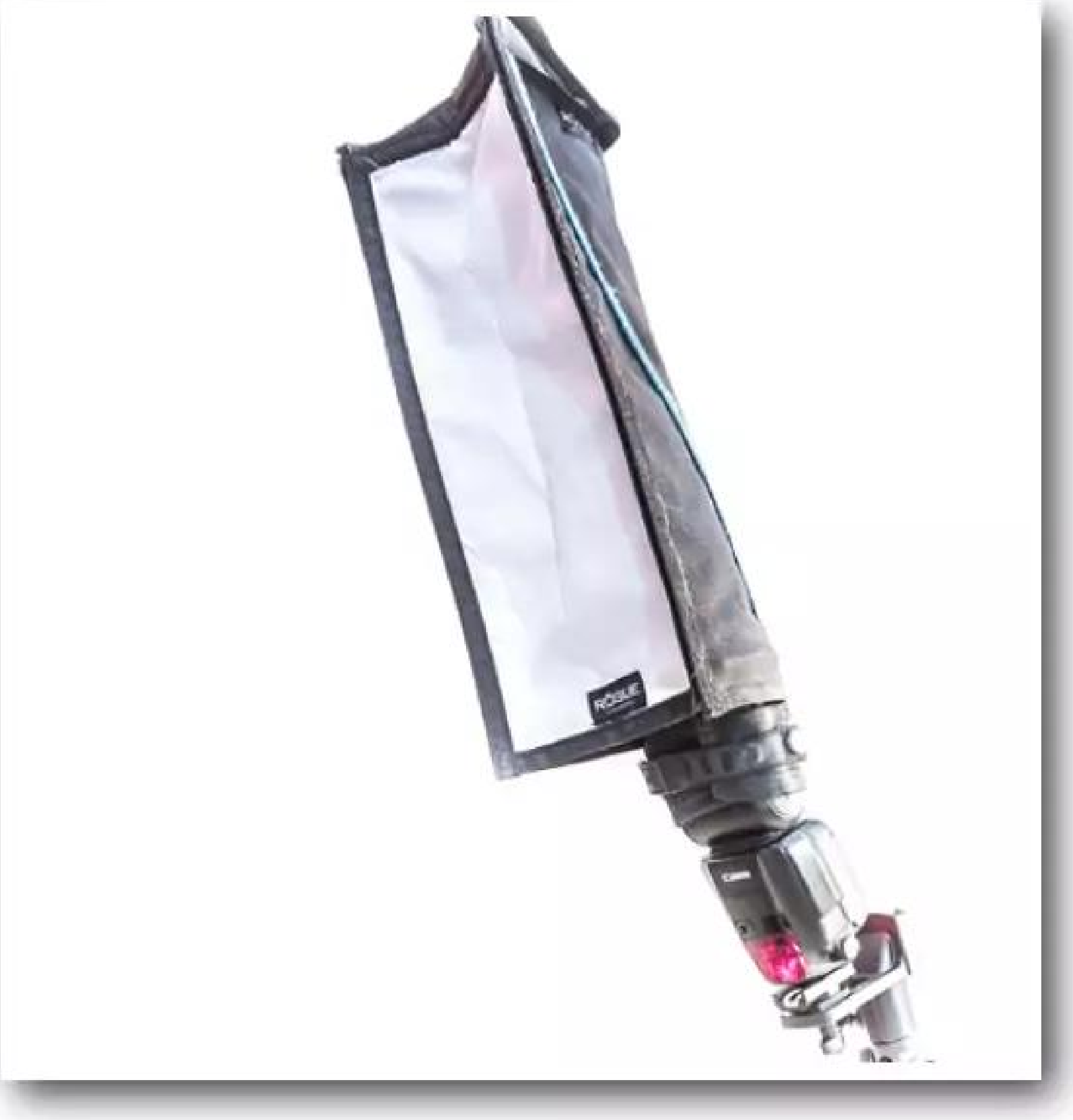


10

Mini strip box

Strip boxes are essentially thin soft boxes that allow you to have soft diffused light, but also keep it quite directional with minimal spill. The flash-mounted version shown here is a strong, flexible, vinyl panel that is silver coated on one side with a translucent panel that creates a sleeve into which the flash is secured. When the flash fires inside the sleeve, light bounces around inside, and because of the silver coating is reflected outwards through the translucent material. As the strip box is something in the order of five times the surface area of the flash head, the resulting shadows are the softest yet.

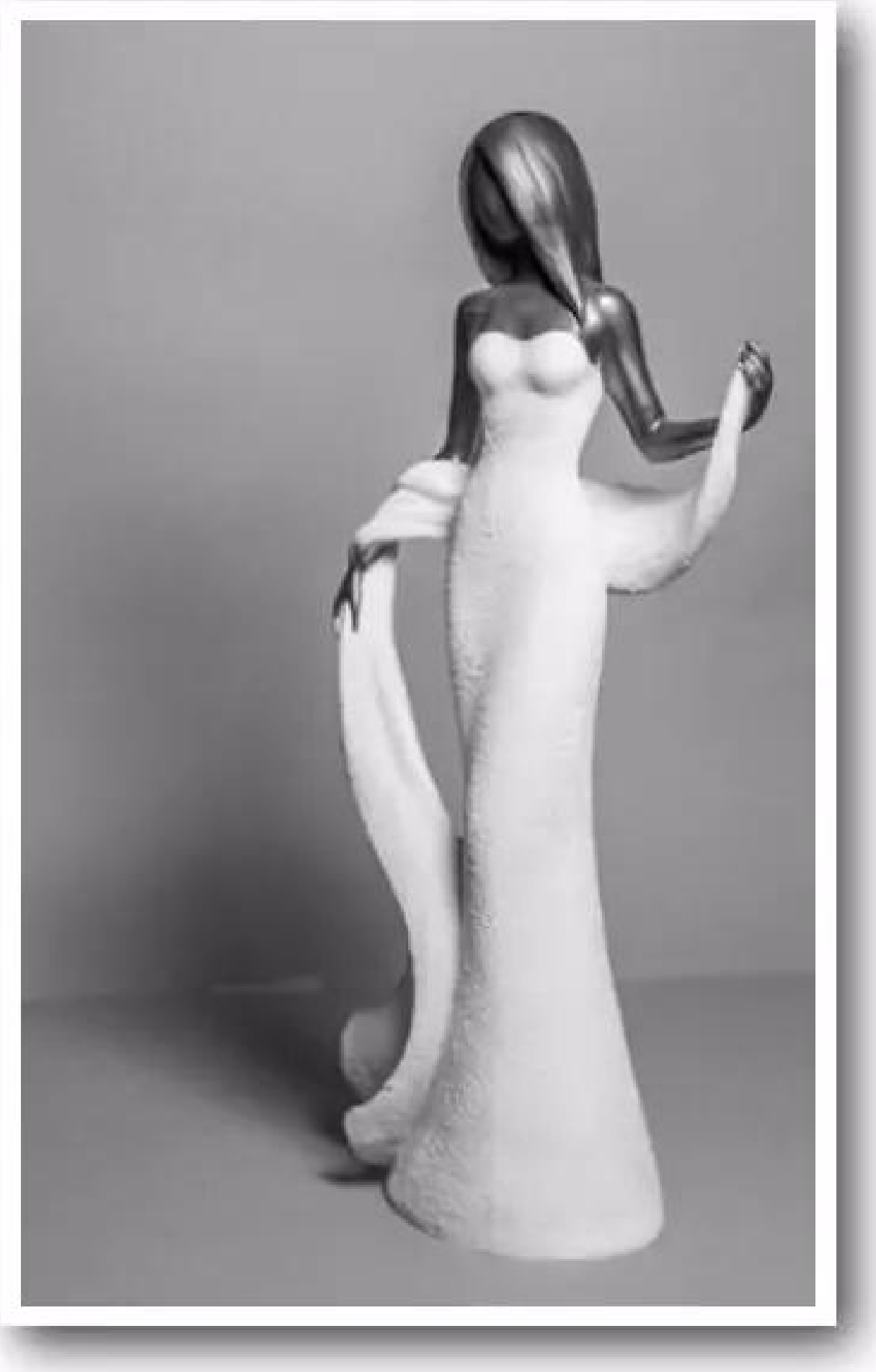


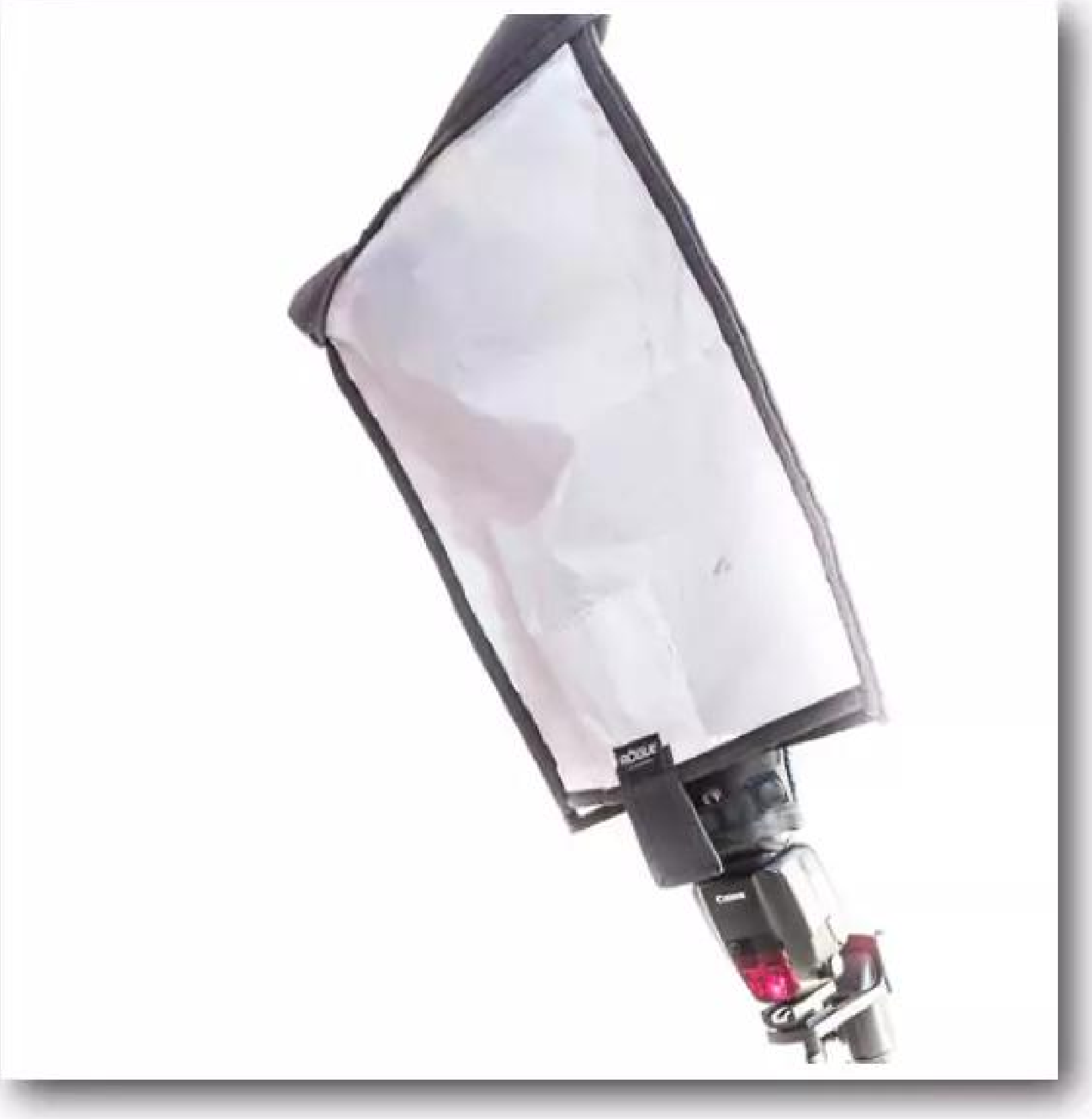


11

Diffusion panel

The diffusion panel takes the idea of the strip box and gives you yet more surface area to use as your light source. It is made from the same materials with a larger square translucent panel with the same flexible silver backing inside the sleeve. It is held together with Velcro and is strapped over the flash head which fires into the sleeve just like the strip box. Of all the small modifiers we've used, because this one is the largest, it gives us the most diffused results with very soft shadows.

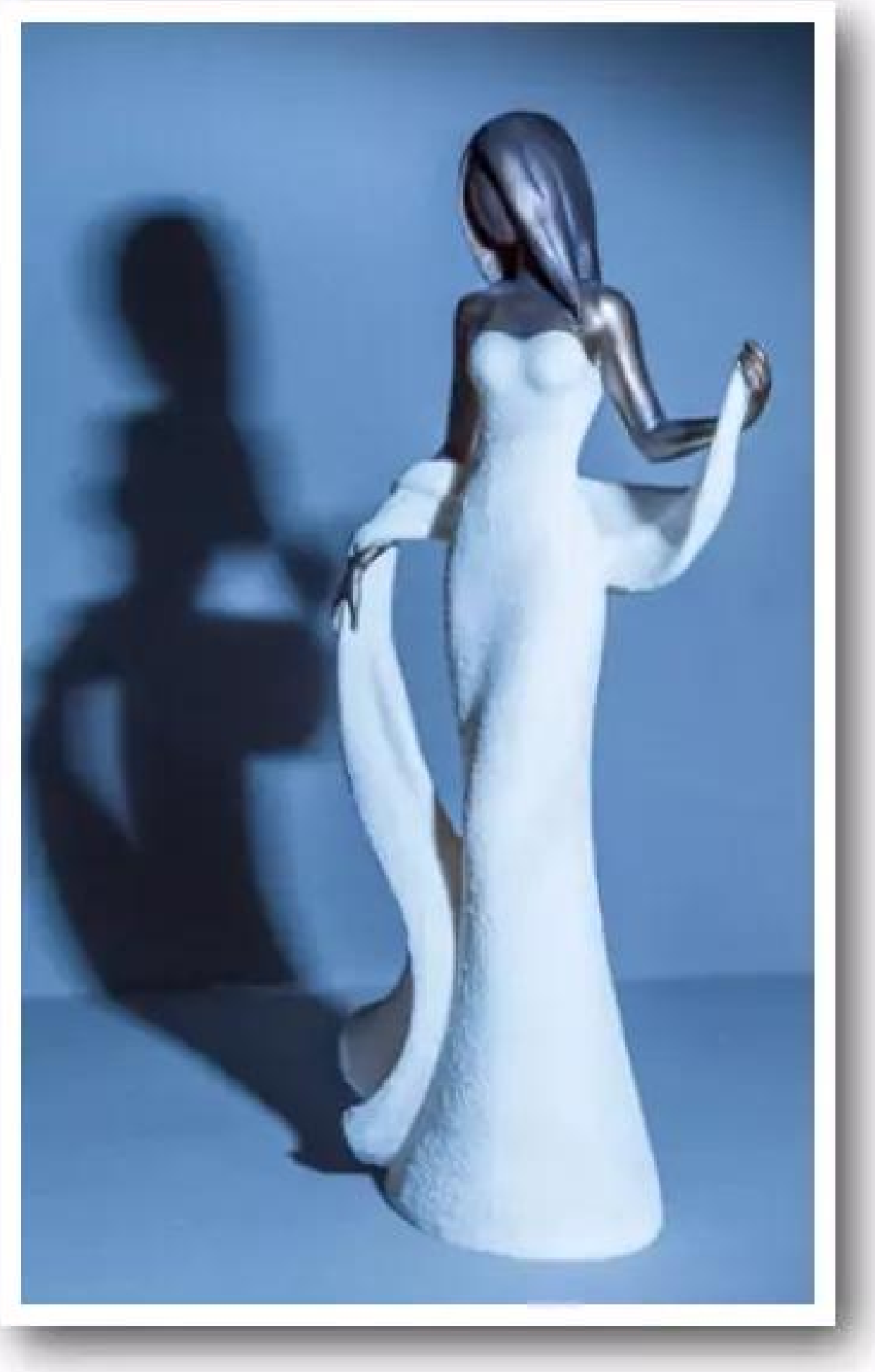


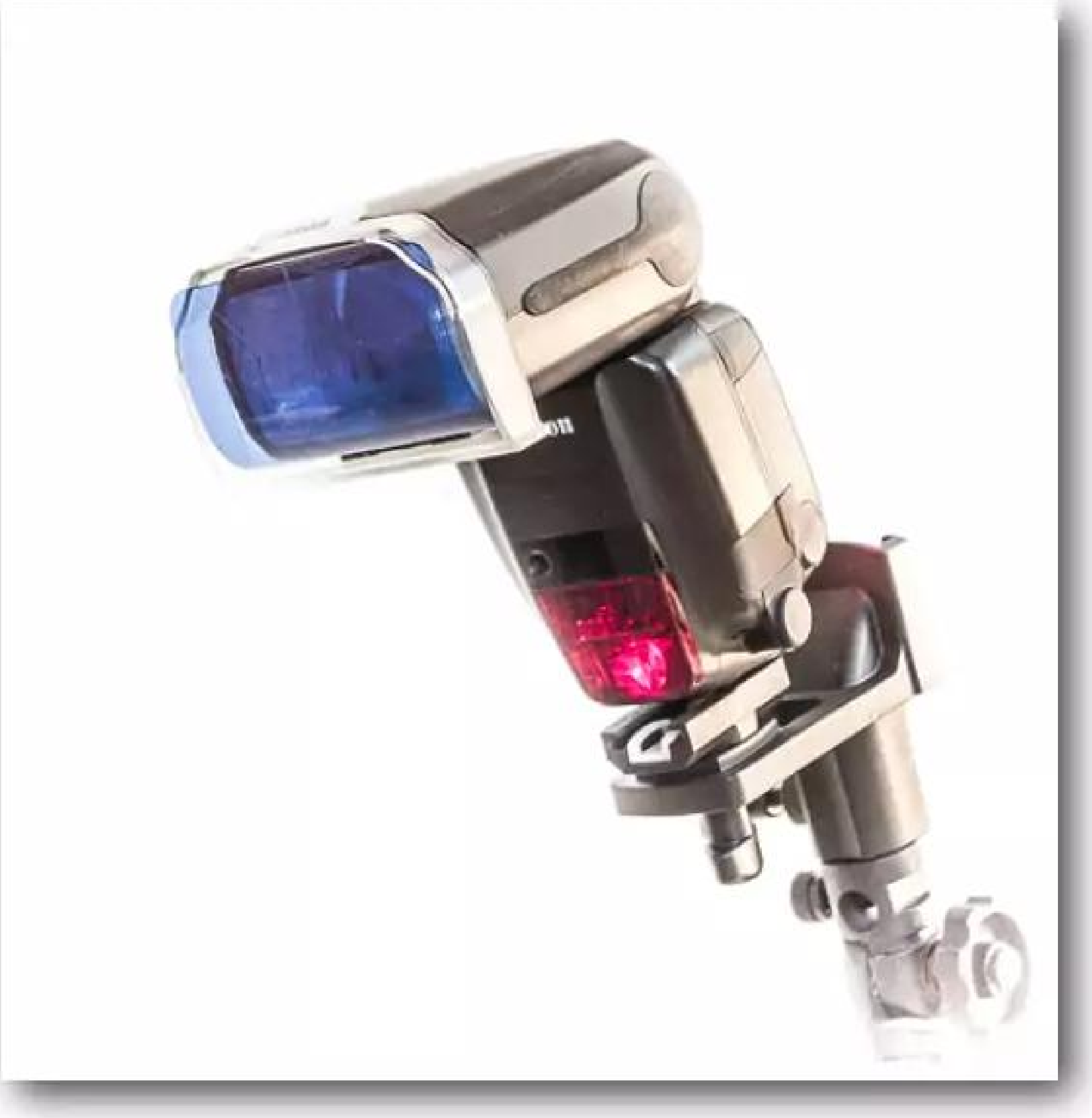


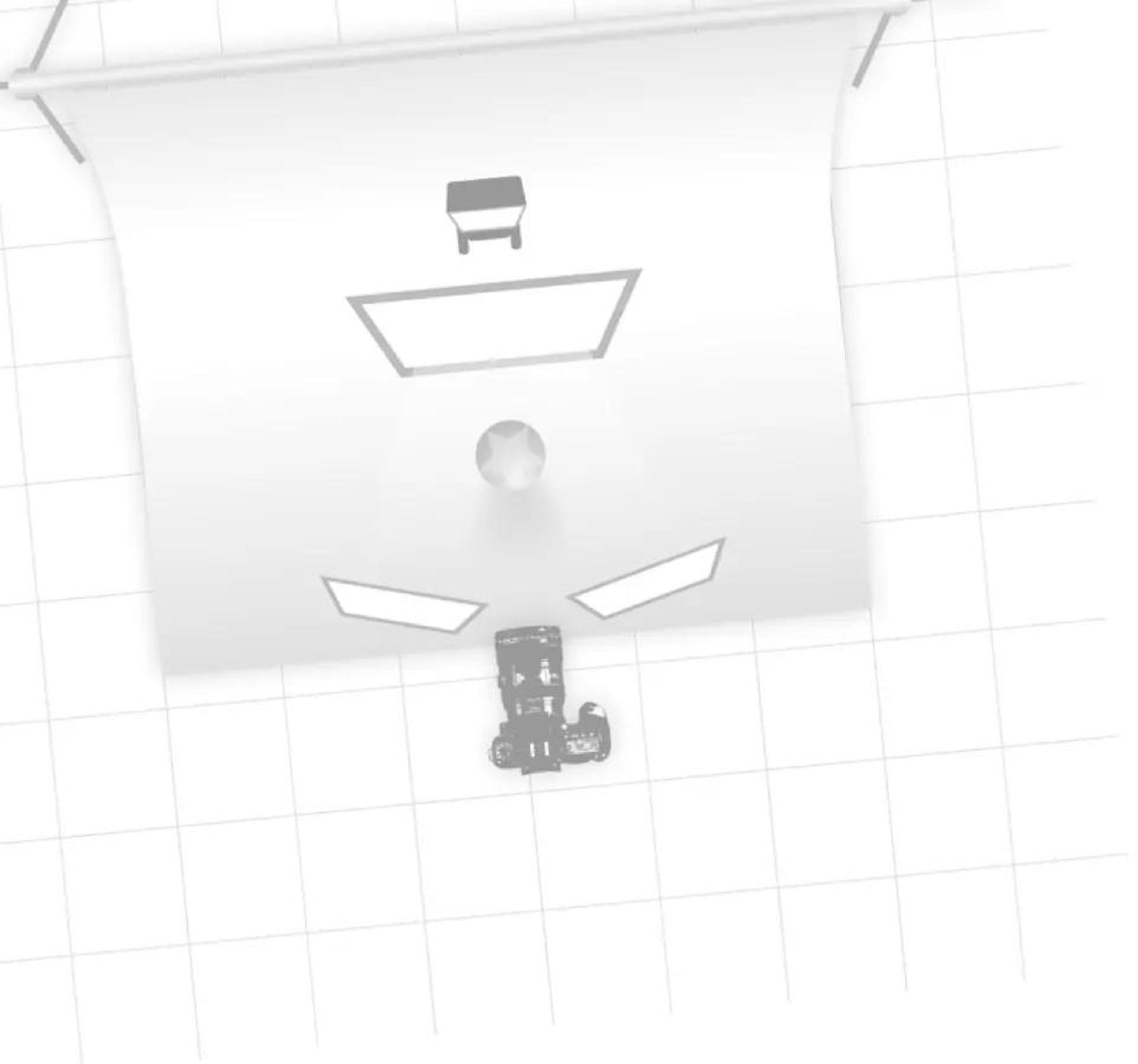
12

Gel holder

There may be occasions when the daylight-balanced light created by your flash doesn't suit your needs. You can purchase special holders that clip onto the front of your flash. Into these holders you can place coloured gels that transform the shade of your light. You can also use the gels on their own, taped to the front of your flash, and add any of the modifiers shown here to get not only the softening and diffusing effect they provide, but the coloured light you might also need for that shot.







Lighting techniques and diagrams

SHEDDING SOME LIGHT ON SETTING UP LIGHTING FOR PORTRAITS

Over the course of time, as photography and photographic equipment developed, the medium moved from only shooting with available light over the course of extremely long exposure times, to the use of additional light sources such as constant artificial light and flashes.

Now that photographers were employing flash in their setups, it became apparent over time, that there were several basic lighting configurations that gave excellent and repeatable results when it came to lighting a portrait or any kind of scene. It was common to note down these configurations and create lighting diagrams that the photographer could refer back to if they wanted to use that particular setup again. As time went on, it was clear that were a few setups that were favoured above all others when it came the possible arrangement of lighting, camera, subject, and the control of light and shadow in the shot.

As you develop as a photographer, always consider making a note of the setups you use that give you pleasing results. As well as the arrangement of your lights, note your flash power settings and the camera settings you used too. You never know when you'll need that setup again, and if you do, you'll quickly be able to get yourself dialed in and shooting all the quicker because you have the 'recipe' on hand to refer to. These days, the days of scribbling in a notebook with your settings is becoming a thing of the past. Now you can create lighting diagrams on your computer, or download ready-made lighting diagrams of all the most popular setups, as well as those created for very specific shooting requirements. They are a great resource for fledgling 'strobists' who want some guidance when it comes to setting lights in your shoot.

Over the next couple of pages, we list out some of the most popular setups for lighting portraits to get you started with your photographic projects. ■

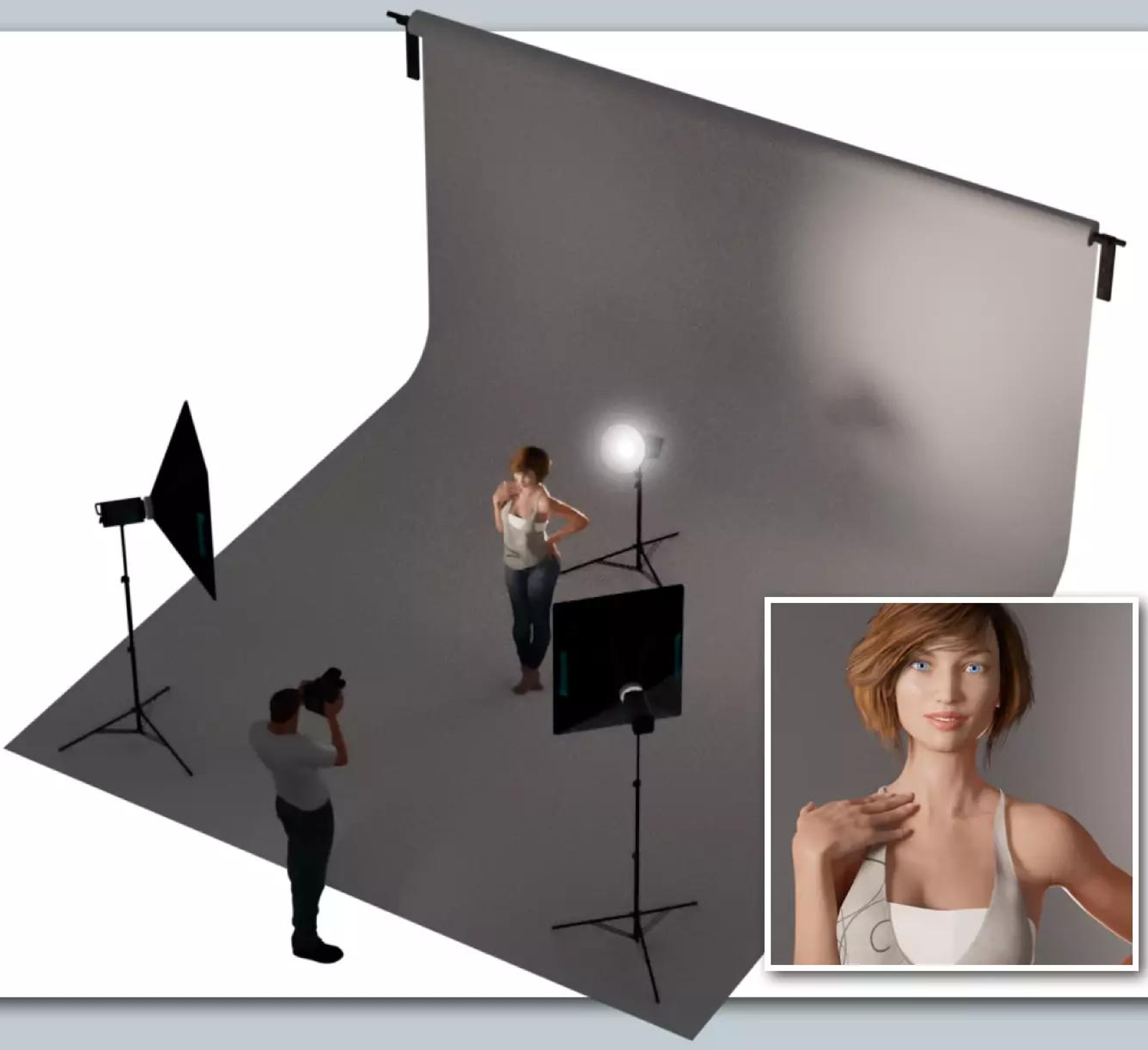
> "...there were several basic lighting configurations that gave excellent and repeatable results."

Lighting techniques and diagrams

1

Three-point lighting

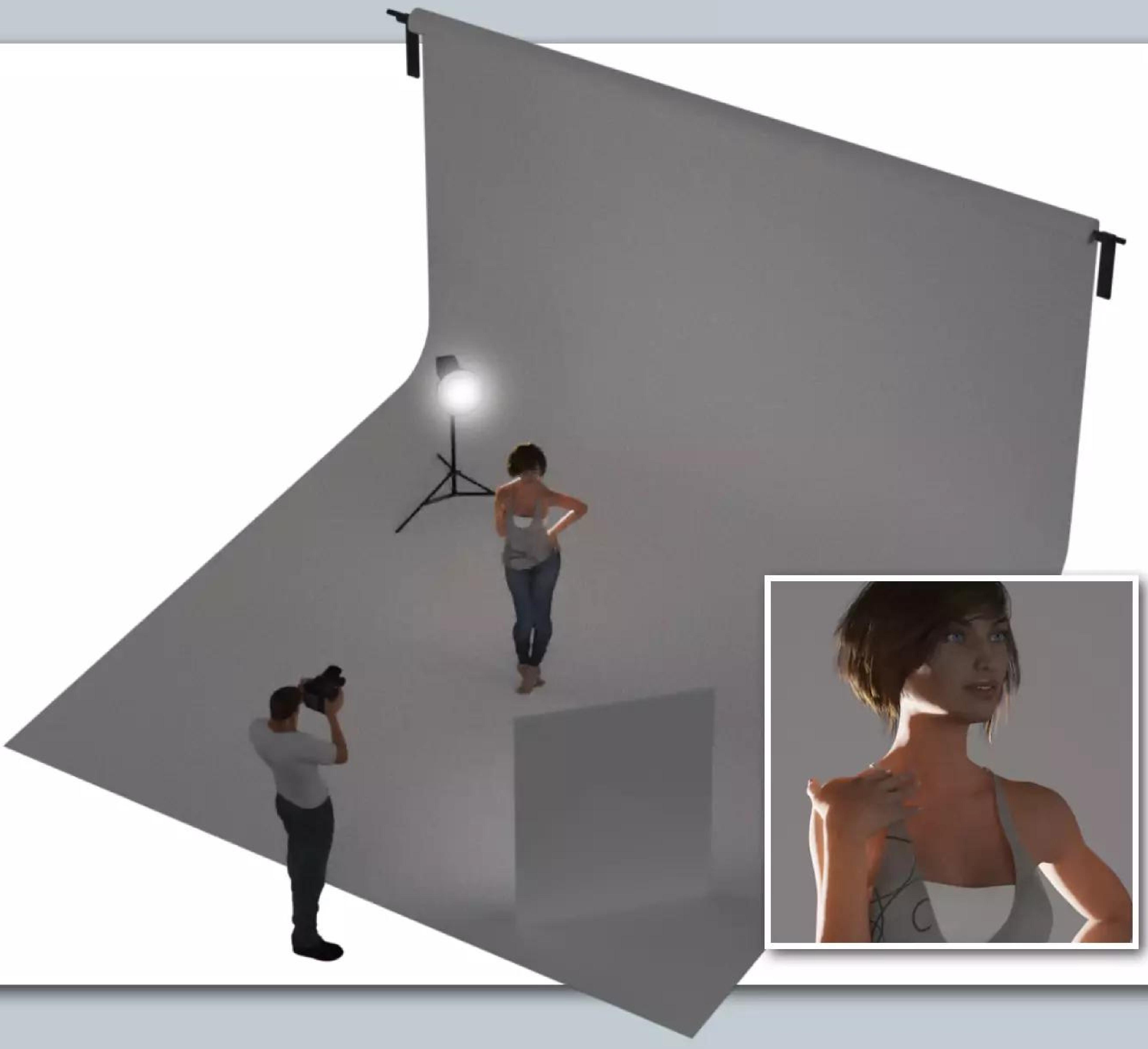
This versatile type of lighting is used widely in most visual media. The three lights are usually positioned equidistant around the subject; by altering the relative brightness of each light, you can decide from what angle your subject is lit. You can backlight them by having the light at the rear as the main key light. You can make one on either side the key light and the others just fill lights, and so on.



2

Backlighting

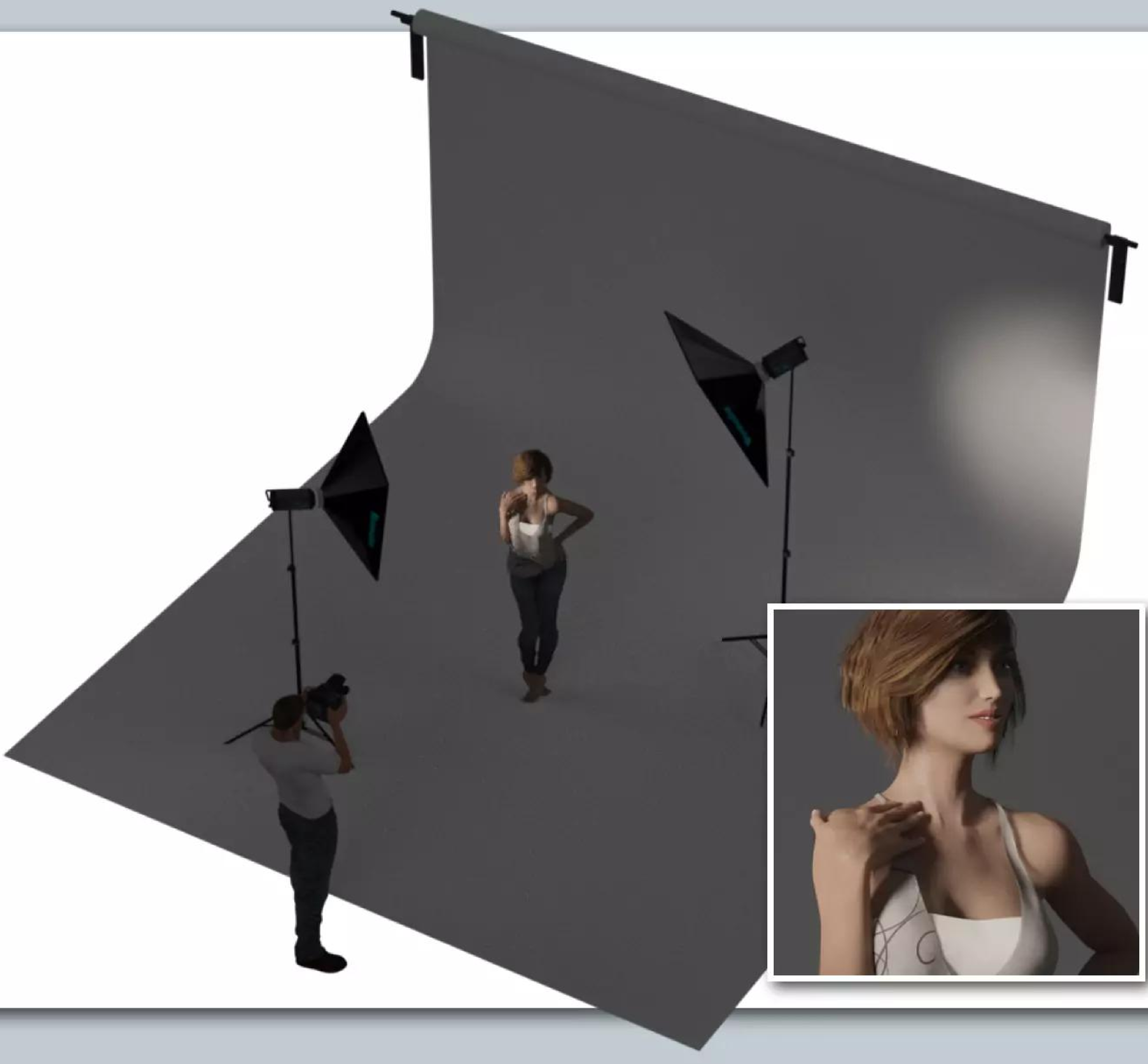
As the name suggests, the light is placed behind your subject. The effect is a bright rim light that envelops the subject, either in part or whole. The subject can be reduced to a silhouette or, if required, a reflector can be used to bounce light back onto the subject for fill. If the light is placed slightly off to one side, you have what is referred to as a kicker light, which creates a bright highlight on one side of the subject. It's used to create some separation of the subject from the background.



3

Broad lighting

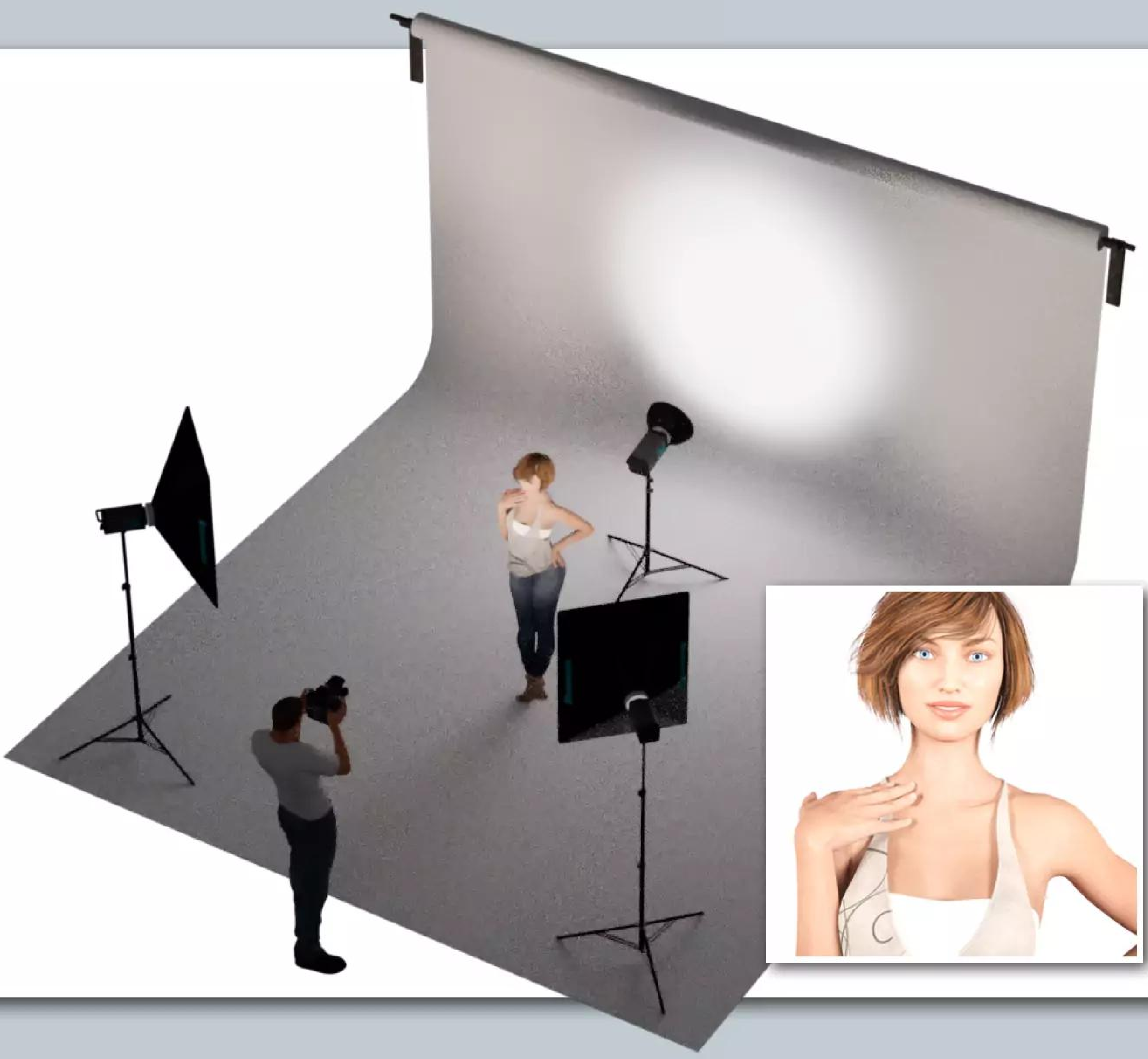
Broad lighting refers to how a subject's face and body is lit. The subject does not face the camera; they are angled off to one side. The wider side of the face/body that is largest and closest to the camera is the side that is illuminated. The narrower part of the face that is furthest from the camera is in shadow. Broad lighting is generally held to be useful for making a slim face appear wider, and for reducing the appearance of wrinkles.



4

High-key lighting

High-key lighting, in its basic form, can be seen as a derivative of the main three-point lighting setup. High-key requires that the lights are at a higher power than is usual, in order to banish as many shadow areas as possible. Some photographers will light their subjects to extreme degrees in order to completely overexpose them. High-key is regarded as an upbeat, light-hearted form of lighting.

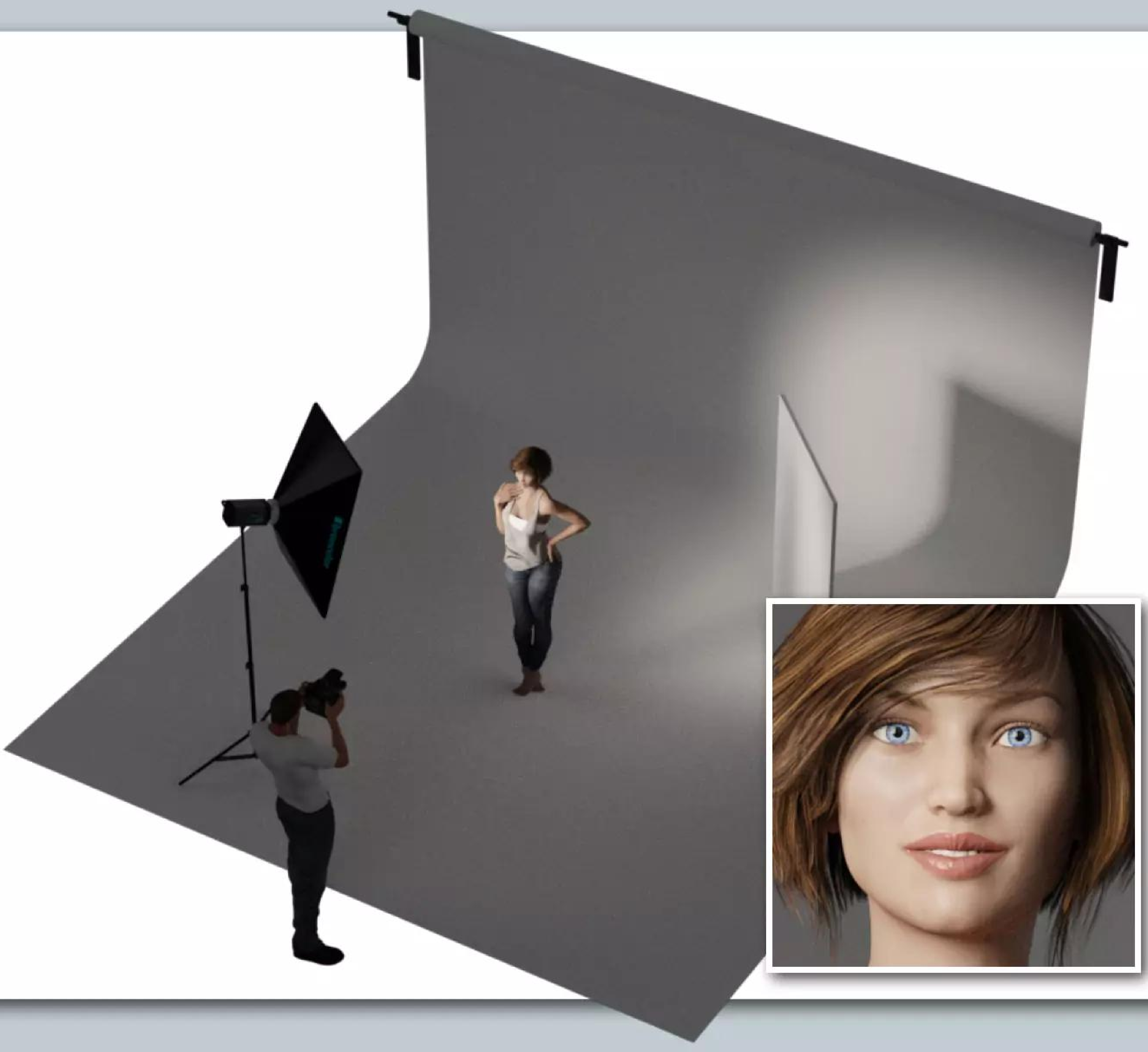


Lighting techniques and diagrams

5

Loop lighting

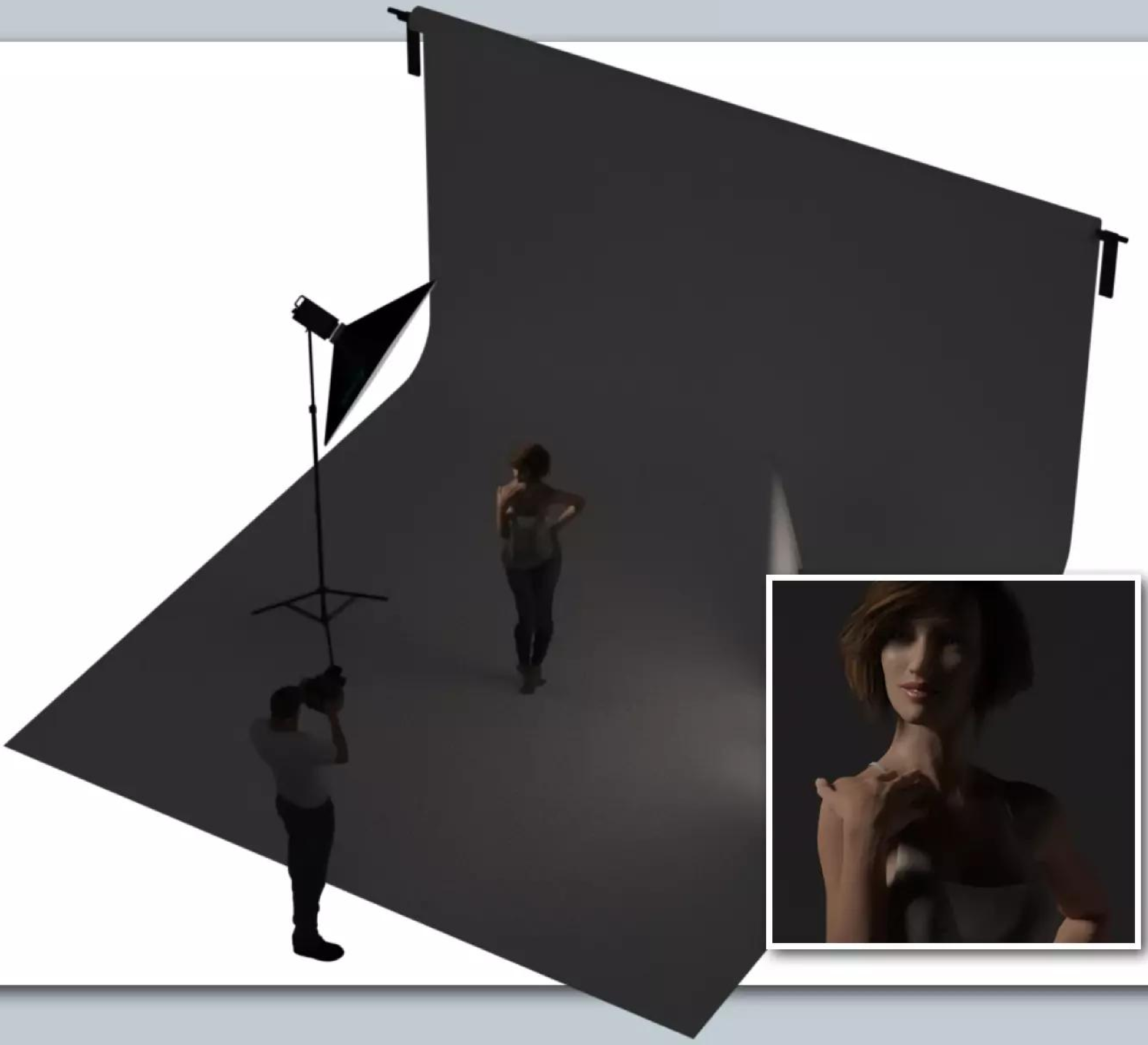
The light is usually placed above your subject's eye-level, roughly 45° from the camera. Loop lighting refers to the small pool of shadow that is cast from the subject's nose on their cheek. Generally you need to keep the light at a sufficiently high angle, such that it creates a shadow that falls slightly downwards but does not touch the cheek area. This method of lighting is very popular, easy to set up, and is flattering for most facial types.



6

Low-key lighting

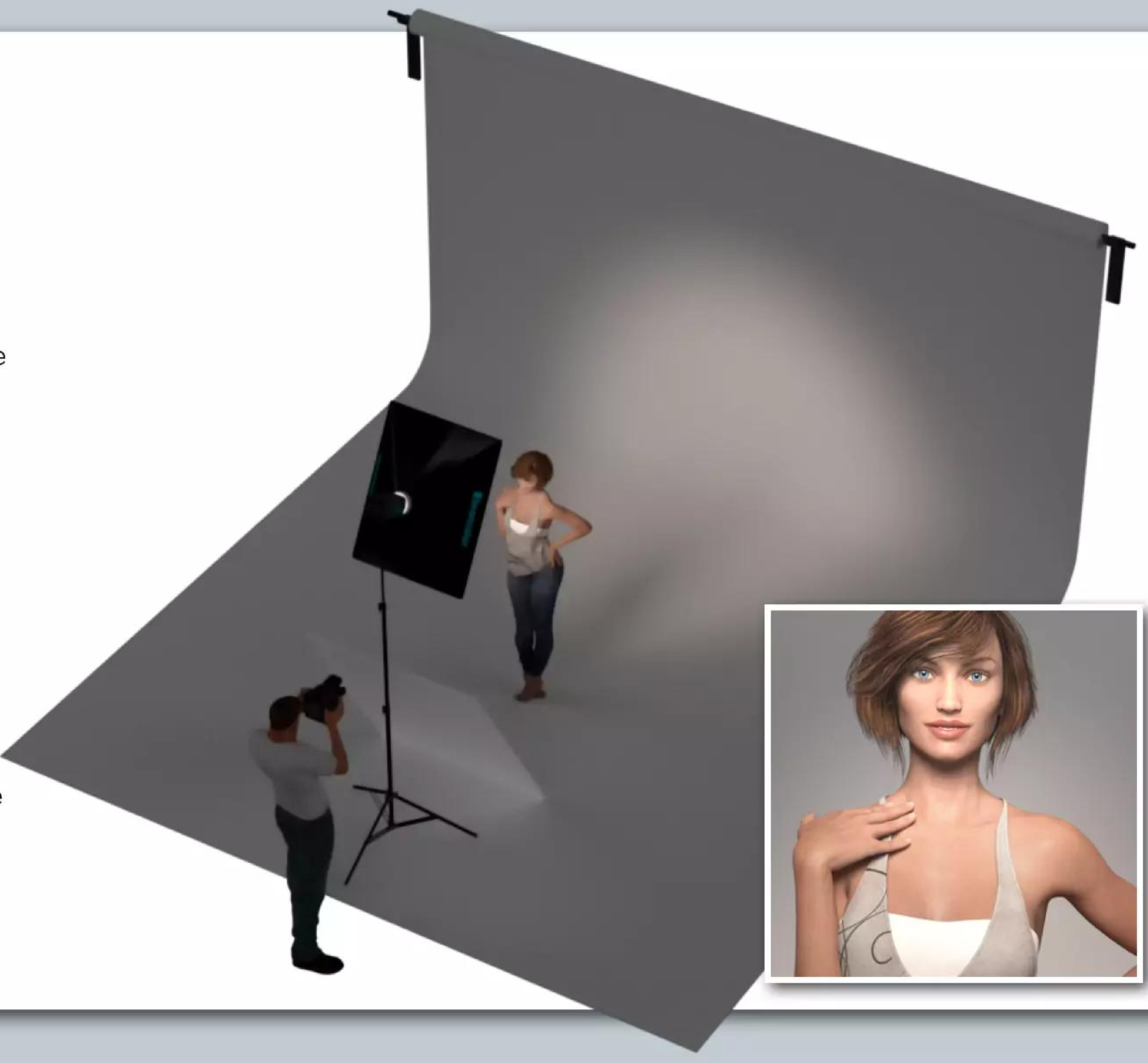
Low-key has been used extensively in all visual media. It creates what is known as the Chiaroscuro effect. This is the use of strong contrasts between light and shadow that helps to define the three-dimensional shape of a subject and give it a sense of volume. Often used with only one light, it is a dark, moody, kind of lighting that can add drama to an image. Additional fill lights or reflectors can be added to control the contrast if required.



7

Paramount lighting

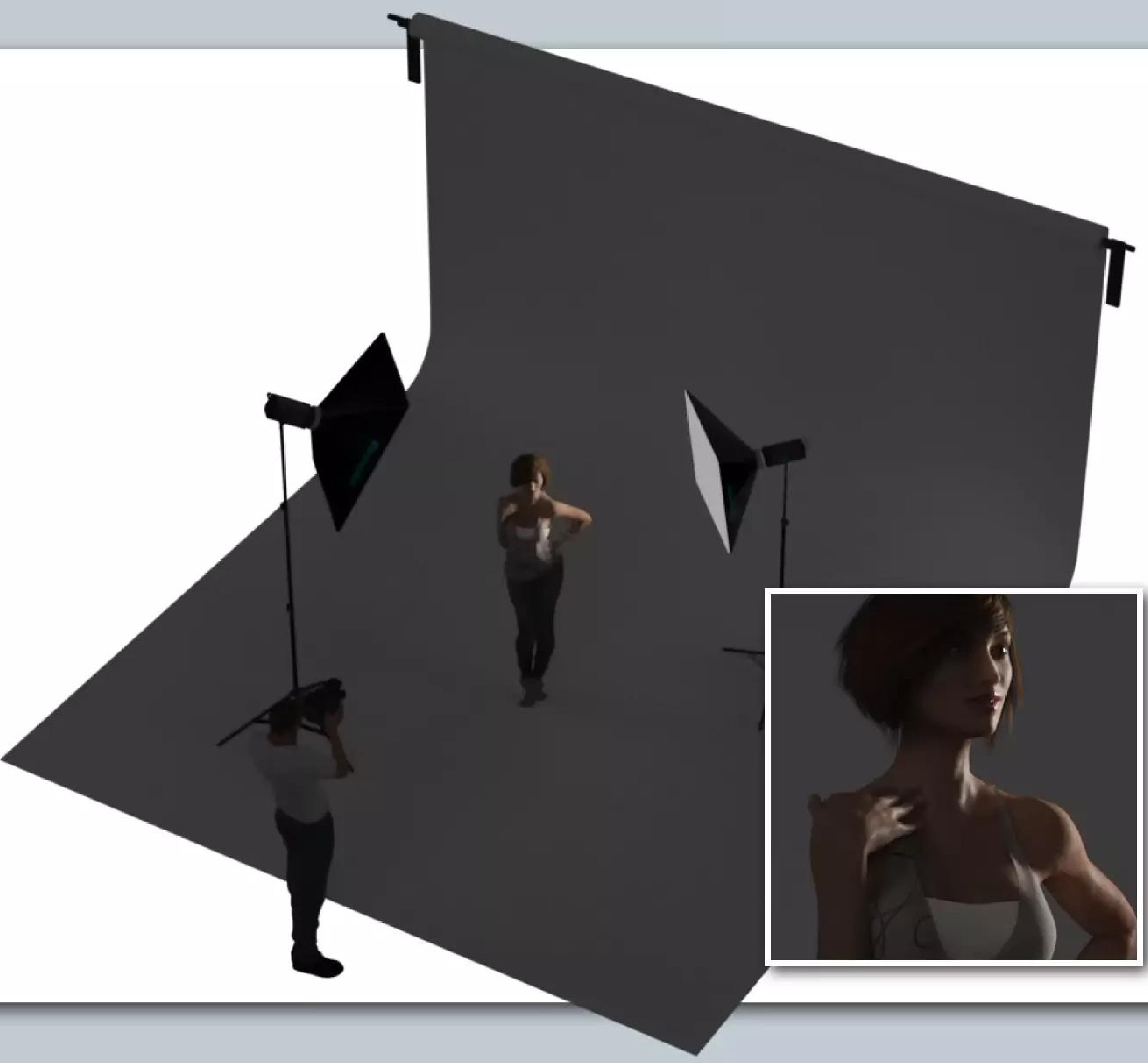
Sometimes referred to as butterfly lighting, this lighting style used to be the signature setup created by the Paramount film studio with which to photograph its leading ladies at the time. The key light faces directly at the subject, and is elevated high above eye-level and angled down onto their face. This method casts a small shadow under the subject's nose in the rough shape of a butterfly. It is a good style to even out skin tone and accentuate cheekbones. It is generally regarded as a more feminine lighting method.

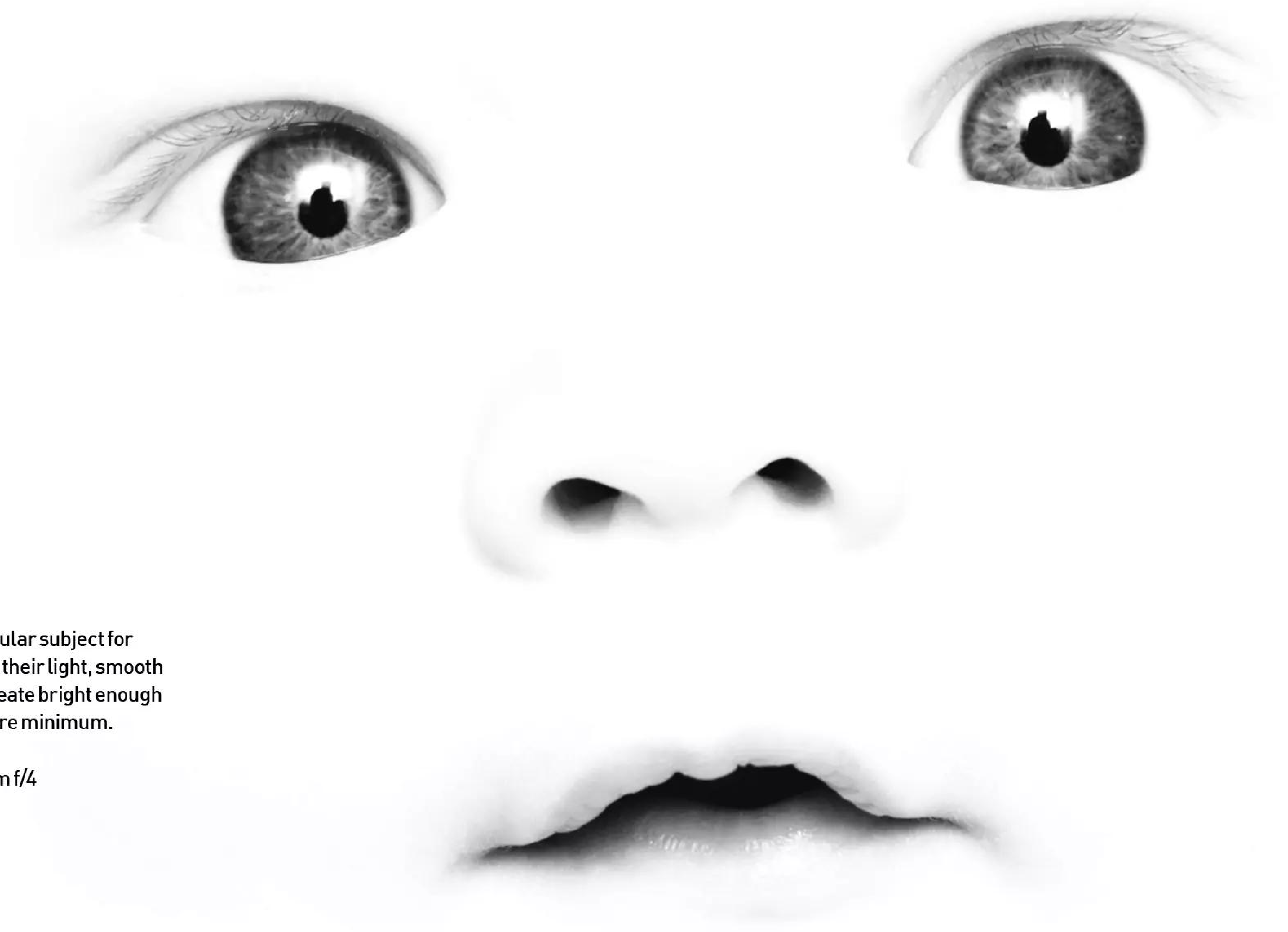


8

Short lighting

Short lighting is the opposite of broad lighting. Once again, the subject is facing away from the camera at an angle. Now, the broadest part of the subject's face/body is in shadow. The narrowest part that faces away from the camera receives the illumination. More of the face is now in shadow. It's a good style to use for its slimming qualities and adds a more three-dimensional, sculpted feel to the shot.





Baby portraits. Always a popular subject for high-key portrait work. With their light, smooth skin, it is relatively easy to create bright enough images to reduce detail to bare minimum.

Canon 5DMK2 - EF24-105mm f/4
f/4 - 1/160 - ISO 100

High-key portraiture

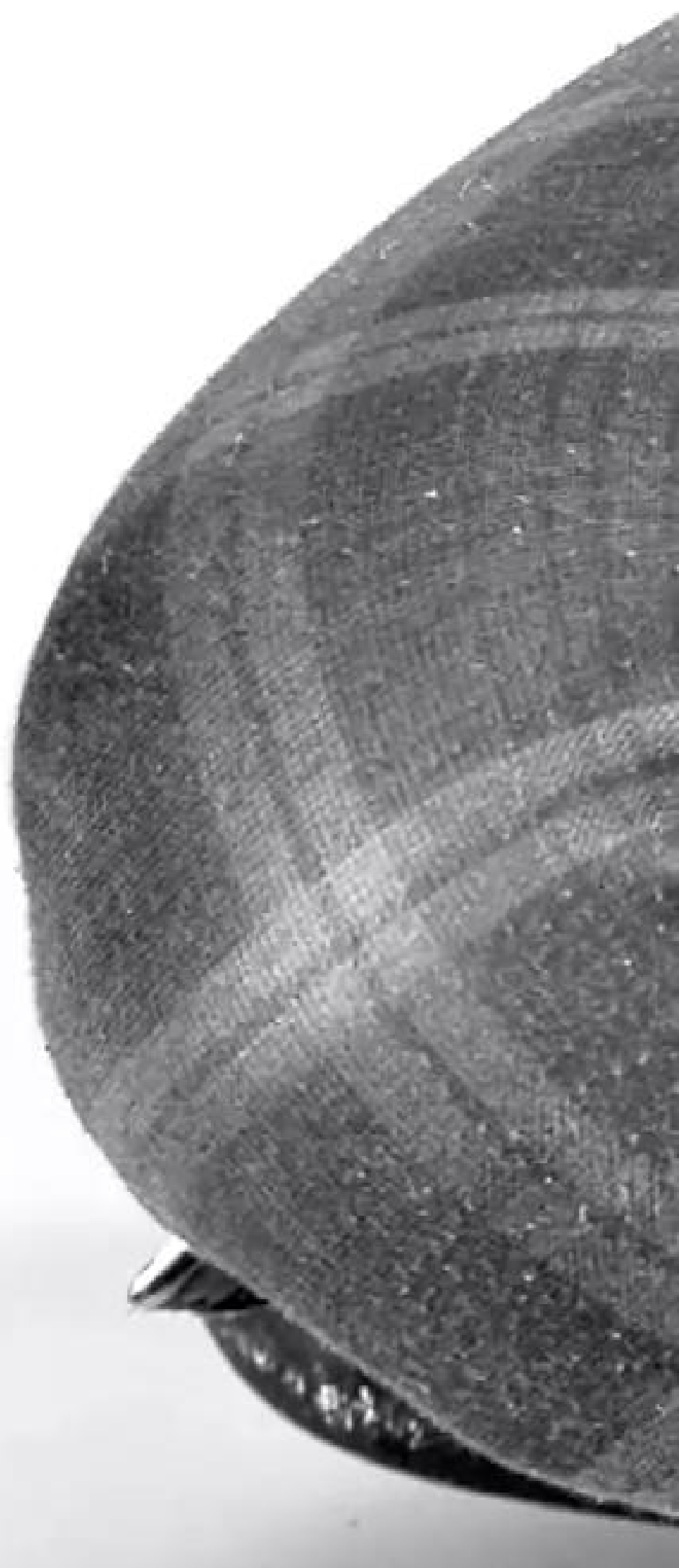
WE GIVE YOU THE LOW-DOWN ON HIGH-KEY LIGHTING FOR PORTRAITS

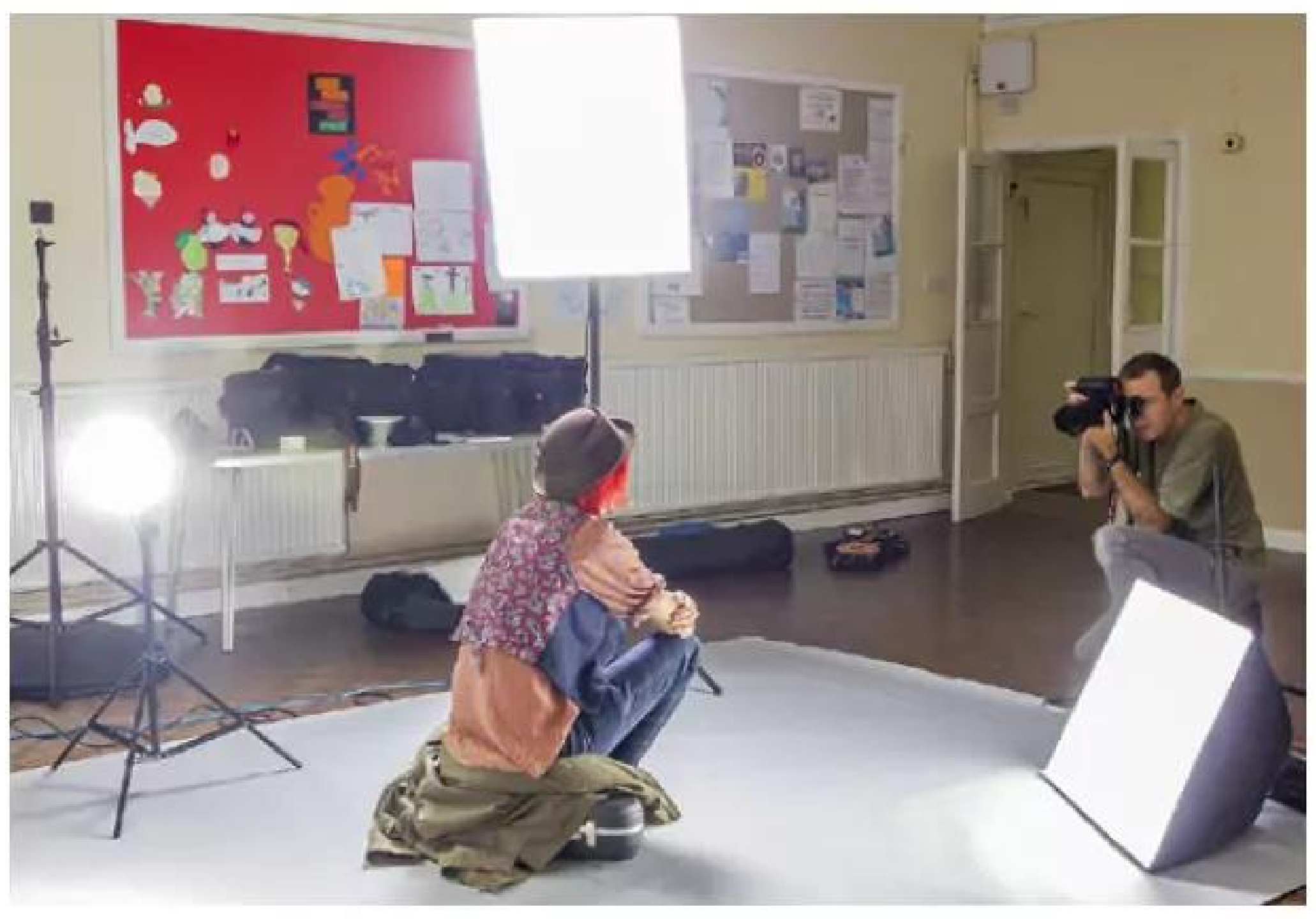
High-key lighting was originally developed for the film and television industry back in the days when the available technology was not capable of capturing high contrast ratios. A scene that had a large range of tones from deepest black to brightest white would have been impossible to capture with old technology. So, they came up with high-key lighting.

The idea is that increased lighting reduces the range of tones between black and white, or eliminates the darkest shadows altogether, making it easier to capture and display those tones that are in the image. Simply put, black and dark tones are reduced, mid-tone areas become much brighter, and bright and near-white areas are pushed to white. Over time, though, it has become a stylistic and creative option for filmmakers and photographers alike. Many modern studios will shoot this kind of imagery for family and portrait work as it is considered quite contemporary, upbeat and light-hearted.

If you are shooting indoors, the amount of light and general lack of shadows mean that once lights are in place, your subject is not tied down to maintaining one position. They can move around and still be awash with light from all sides. High-key images are also considered very appealing. Images with a larger amount of pale or bright tones are seen as positive, fun and generally attractive. The brighter nature of the shots is also flattering. The removal of shadows and a certain amount of reduced detail can improve a portrait. The further addition of presenting the images in black and white, where the possible confusion of colour has been removed, is also very effective. ■

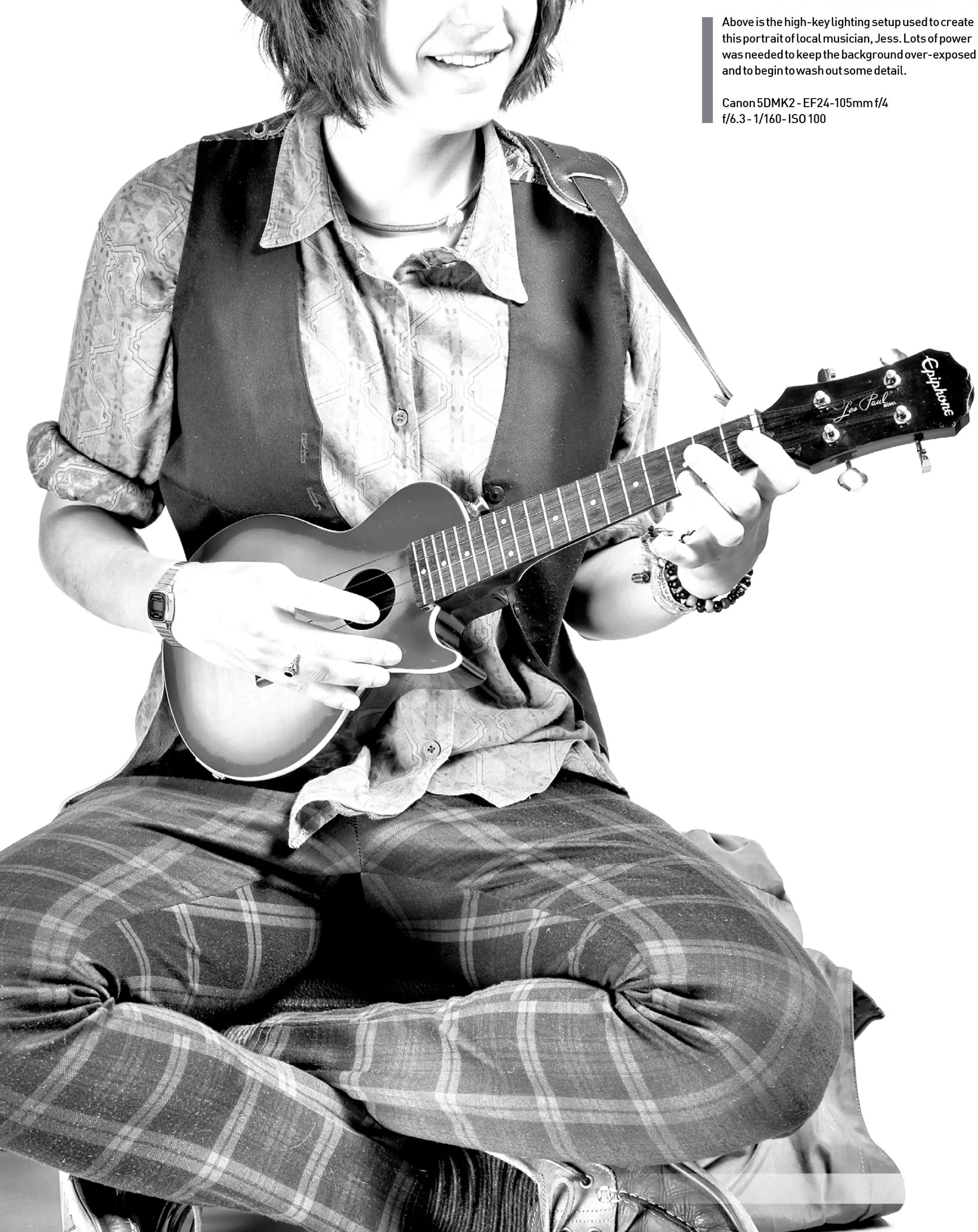
> "The removal of shadows and a certain amount of reduced detail can improve a portrait."





Above is the high-key lighting setup used to create this portrait of local musician, Jess. Lots of power was needed to keep the background over-exposed and to begin to wash out some detail.

Canon 5DMK2 - EF24-105mm f/4
f/6.3 - 1/160 - ISO 100



> “What constitutes a high-key image appears to be a matter of some creative debate.”

High-key portraiture

THE GREAT DEBATE; WHAT IS A HIGH-KEY IMAGE?

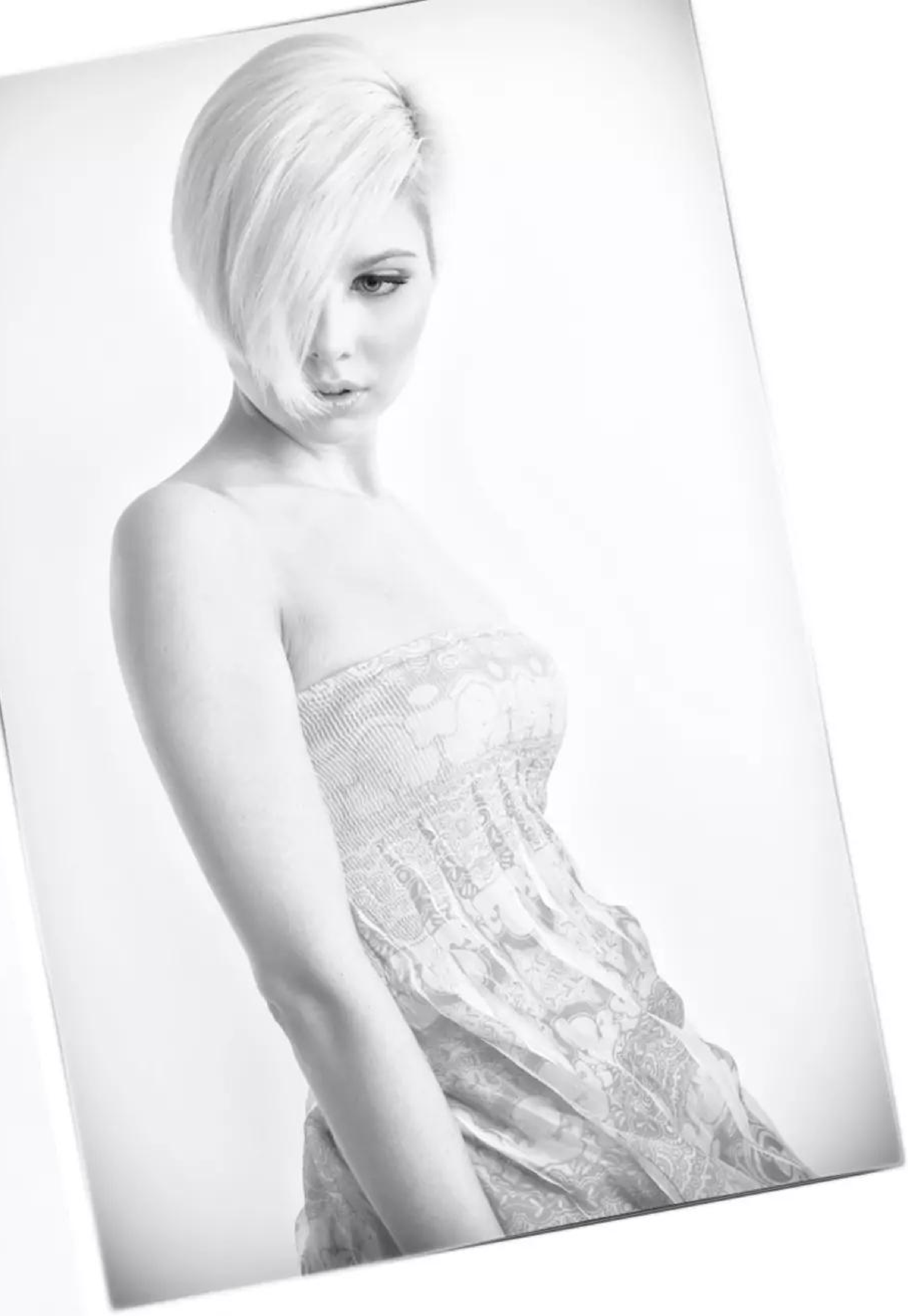
What constitutes a high-key image appears to be a matter of some creative debate. It is held by artists in some areas, who declare that a high-key image should not contain deep shadows and have limited areas of dark tones: essentially, a low contrast image. Some will say that a generally well exposed mid-tone subject, with a pure white background, constitutes a high-key photo. Still more will take the image to extreme levels of overexposure, with much detail being lost in the process, to leave the barest amount of detail and tonal range.

A general rule is that a high-key image when viewed as a histogram, either on your camera’s LCD display or within your favourite Raw processing application, has its average tones to the far right of the histogram. The further to the right, the brighter the image. It is often referred to as ‘shooting to the right’. This is done as a result of either deliberate overexposure of an already bright scene at the shooting stage, or lighting the scene in order to achieve a histogram pushed to the far right. Your approach to shooting and lighting high-key may develop over time, but ‘shooting to the right’ can be a good starting reference.

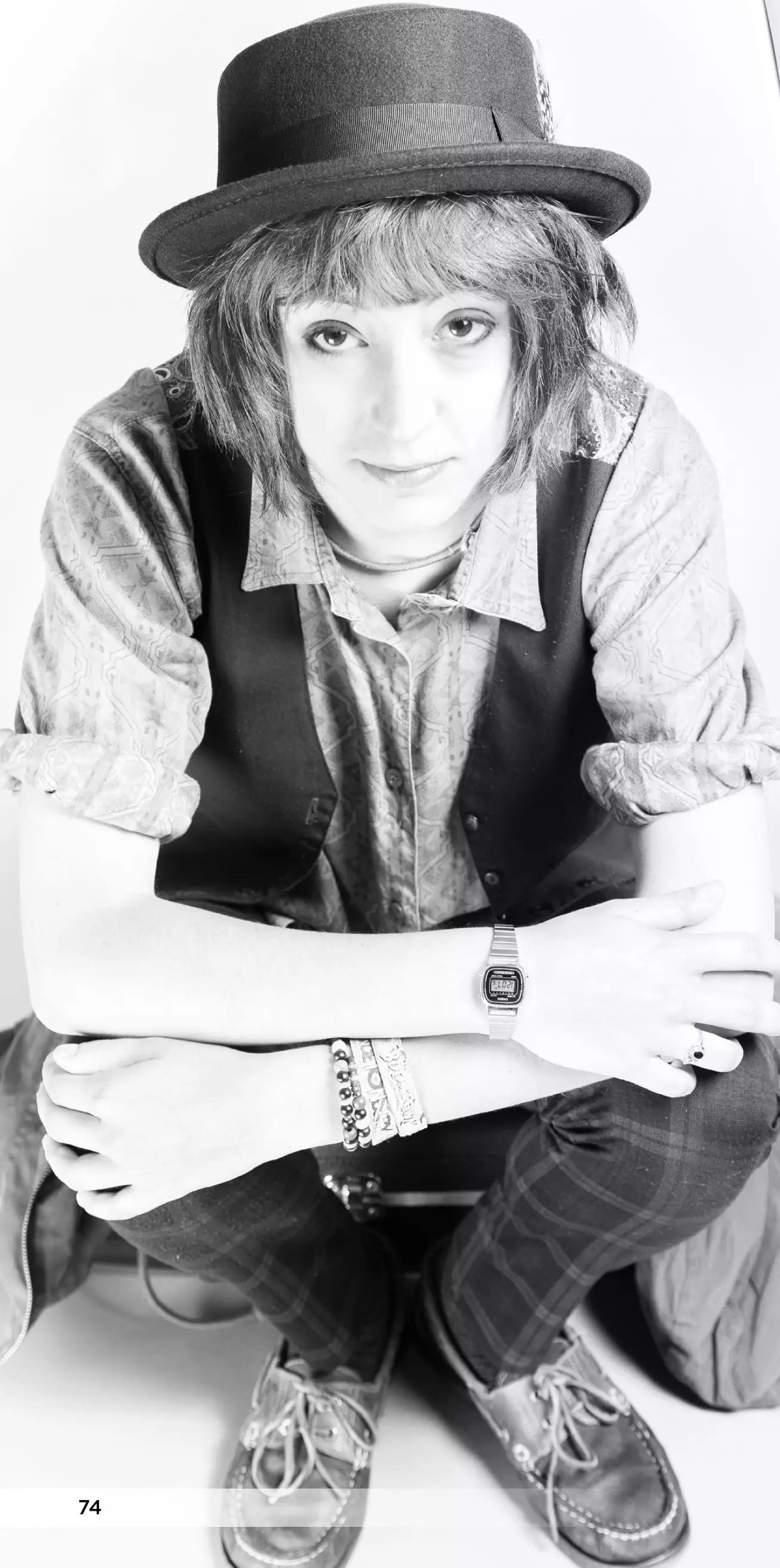
High-key photography is not always something that can be done well with post-processing alone. Solid lighting elements in the original shooting setup have to be in place to ensure a well-balanced high-key image. If the image you shoot is not lit correctly, you may not be able to process your way out of the problem, so this is something to bear in mind. You have plenty of light falling on your scene, but you need to make sure your exposures are set to get the brightest areas pushed as close to absolute white as you can, even going into overexposure to keep the greatest ratio of tones in the mid-tone and lighter areas. Shadows, although you can have them, are as minimal as possible. Make sure that you also shoot with as low an ISO setting on your camera as possible. This gives you some processing overhead if you find you do need to do some heavy tweaking of your images after the shooting stage. Given the amount of light you are employing in your shots, fast shutter speeds should be no problem to achieve. Depth of field and aperture are creative choices, but you may be limited by the sync speeds your camera and flash can achieve. ■

Baby Isabelle in another typical high-key infant portrait. The lighting and subsequent mono conversion were all geared towards the reduction of as much detail without destroying the structure of the shot.

Canon 5DMK2
EF24-105mm f/4
f/6.3 - 1/160 - ISO 100



Although the background is not blown out to absolute white, this is still considered a high-key shot because it is still a low contrast image. Viewed on a histogram, the images' main concentration of tones will still be on the right-hand side.



Musician Jess, has a very eclectic style that works well as a high-key image. The image was shot as far to the right of the histogram as possible and then further processed in Photoshop to brighten the lightest tones to pure white.

Canon 5DMK2 - EF24-105mm f/4
f/5.6 - 1/160 - ISO 50

This form of high-key portraiture became so popular, many portrait studios developed it as their main style. Studios such as Venture used it a lot for children and infant portraits. It is a bright, happy style, ideally suited to children's portraits in particular.

The clothing you wear for a high-key will obviously have an impact on the final result when seen in mono. In the case of Dom here, he wore a white t-shirt which had a lot of its detail reduced when lit by two key lights.

Canon 5DMK2 - EF24-105mm f/4
f/7.1 - 1/160 - ISO 100

“...with low-key you often need only one light to get a great dramatic portrait.”

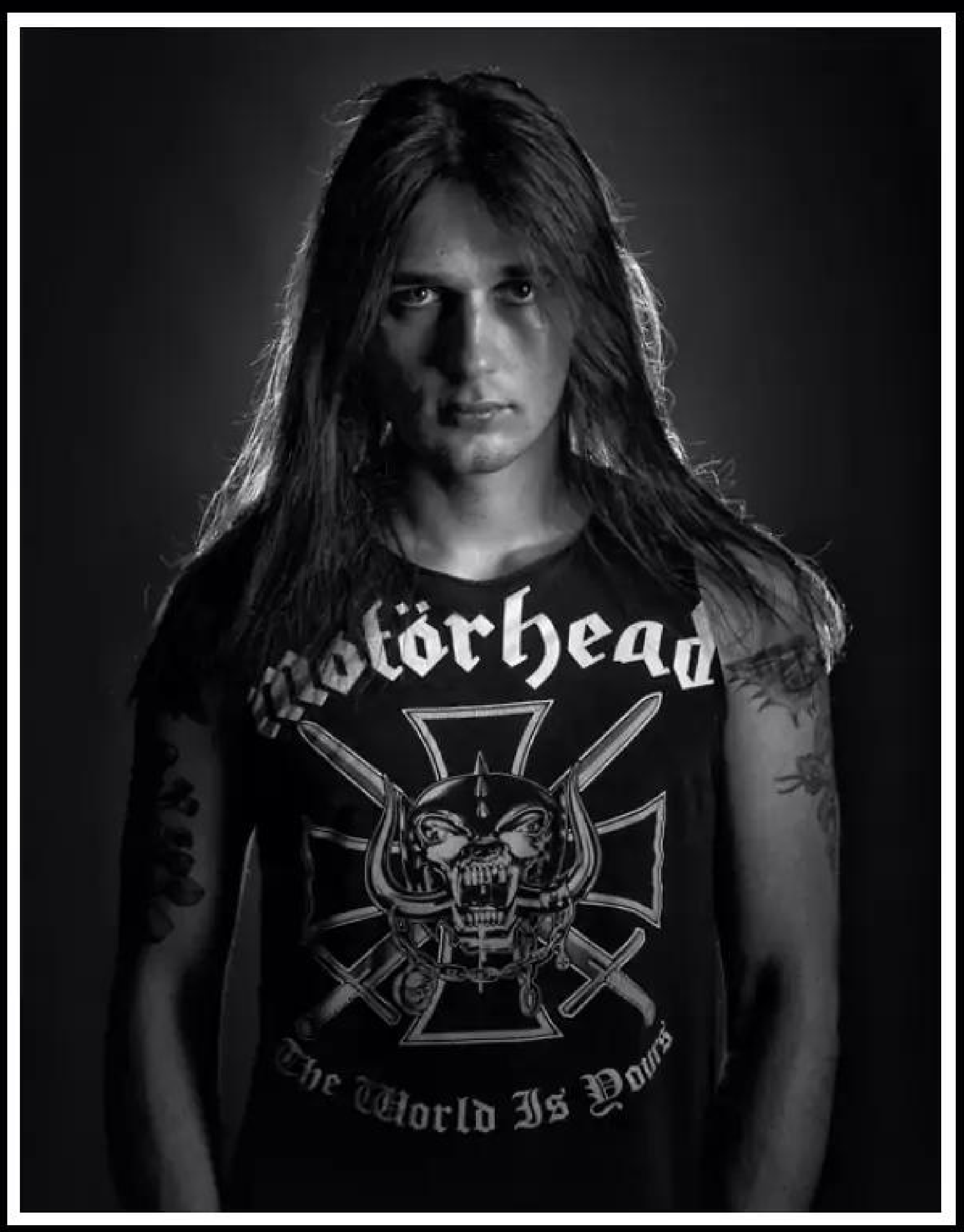
Low-key portraiture

WELCOME TO THE DARK SIDE WITH LOW-KEY LIGHTING FOR PORTRAITS

Low-key lighting is widely used in all the various visual media such as film, television and photography. It is used to add drama to a scene or image. Its mood is generally the complete opposite of high-key. It is dark, brooding, mysterious, and dramatic. Low-key is also a simpler setup than its counterpart. You are often using three or more lights for high-key work; but with low-key you often need only one light to get a great dramatic portrait. An absence of light is what is needed here, with just your subject illuminated, creating high contrast images.

Shooting with one light in a dark setting also means you can shoot in locations that would normally be no good for any other kind of lighting. Because your subject is essentially the only thing in the scene that is lit, you can shoot in your own front room if you want to, without the need for large studio space, providing you don’t need to shoot very wide and your flash is not reflecting off anything that might show up in the final image. A large black sheet as a backdrop is one additional item that will help eliminate any parts of your home showing in the shot. You can just keep your flash power low, move it in close to your subject, and shoot away.

It is not unheard of for photographers to shoot low-key images in daytime outdoor locations such as car parks. It then becomes a case of having enough space in which to work with no distracting objects nearby. You’ll have to use camera settings that, on their own, render the scene black; then introduce a light source very close to the subject at sufficient power to provide enough illumination for them to be seen in the shot, but not spill onto anything else in the immediate vicinity. ■



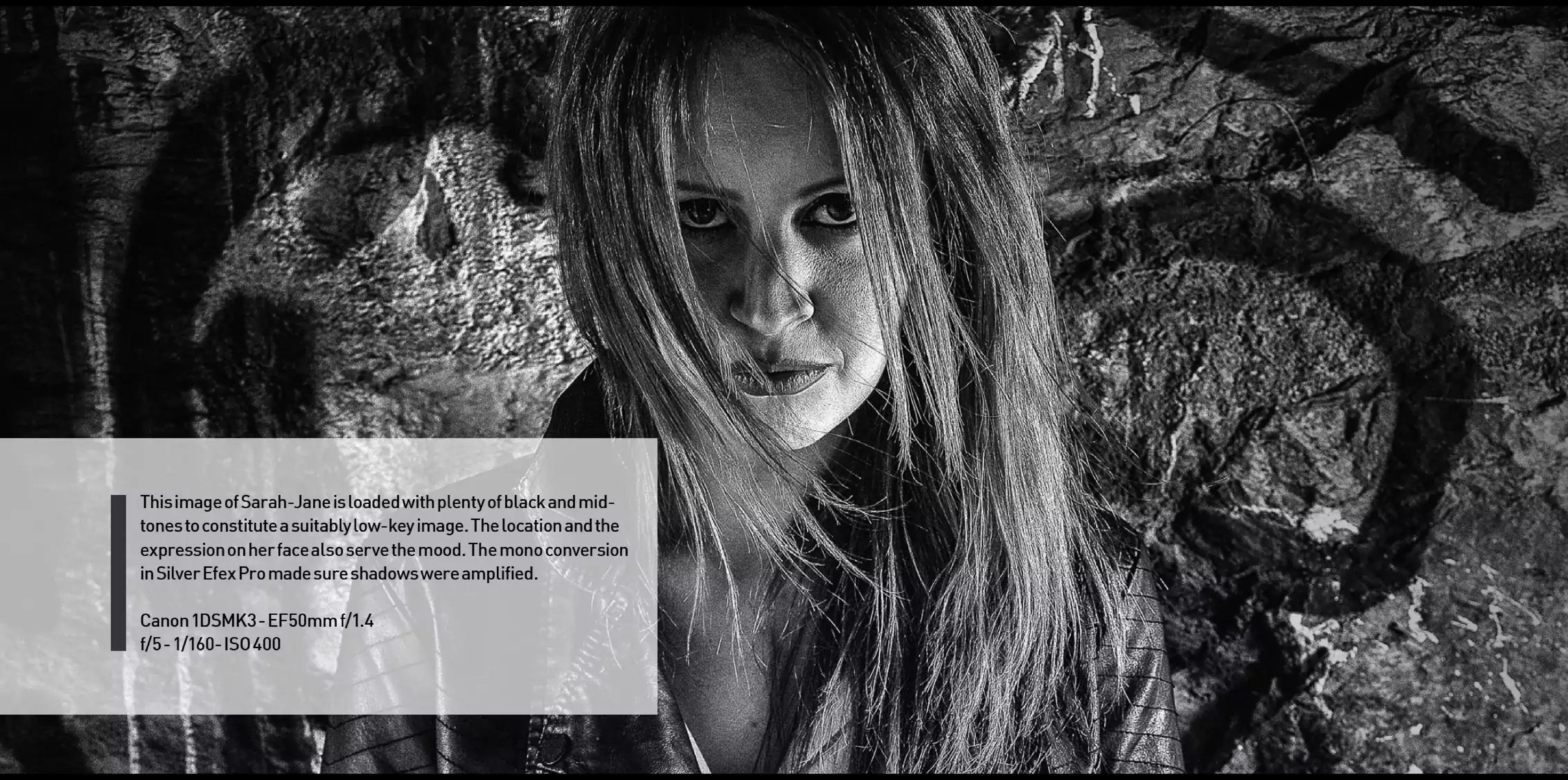
Low-key portraiture

SOME KEY INSIGHTS ON SHOOTING LOW-KEY PORTRAITS

Whereas high-key photography is seen as the process of 'shooting to the right', where all the brightest tones are packed on the far right of the histogram. Low-key, as you might imagine, is the reverse of that. A proper low-key shot will have the majority of the tones in the histogram far to the left, even to the point where shadows are 'clipped' and therefore totally black. It is perfectly suited to being converted to black and white, often looking more striking than its colour counterpart. Bear in mind that, although you are capturing a predominantly dark image, it is how you control those tones that will create a striking and memorable low-key image. Because you are normally using a one light setup, it is easy to keep moving the light around.

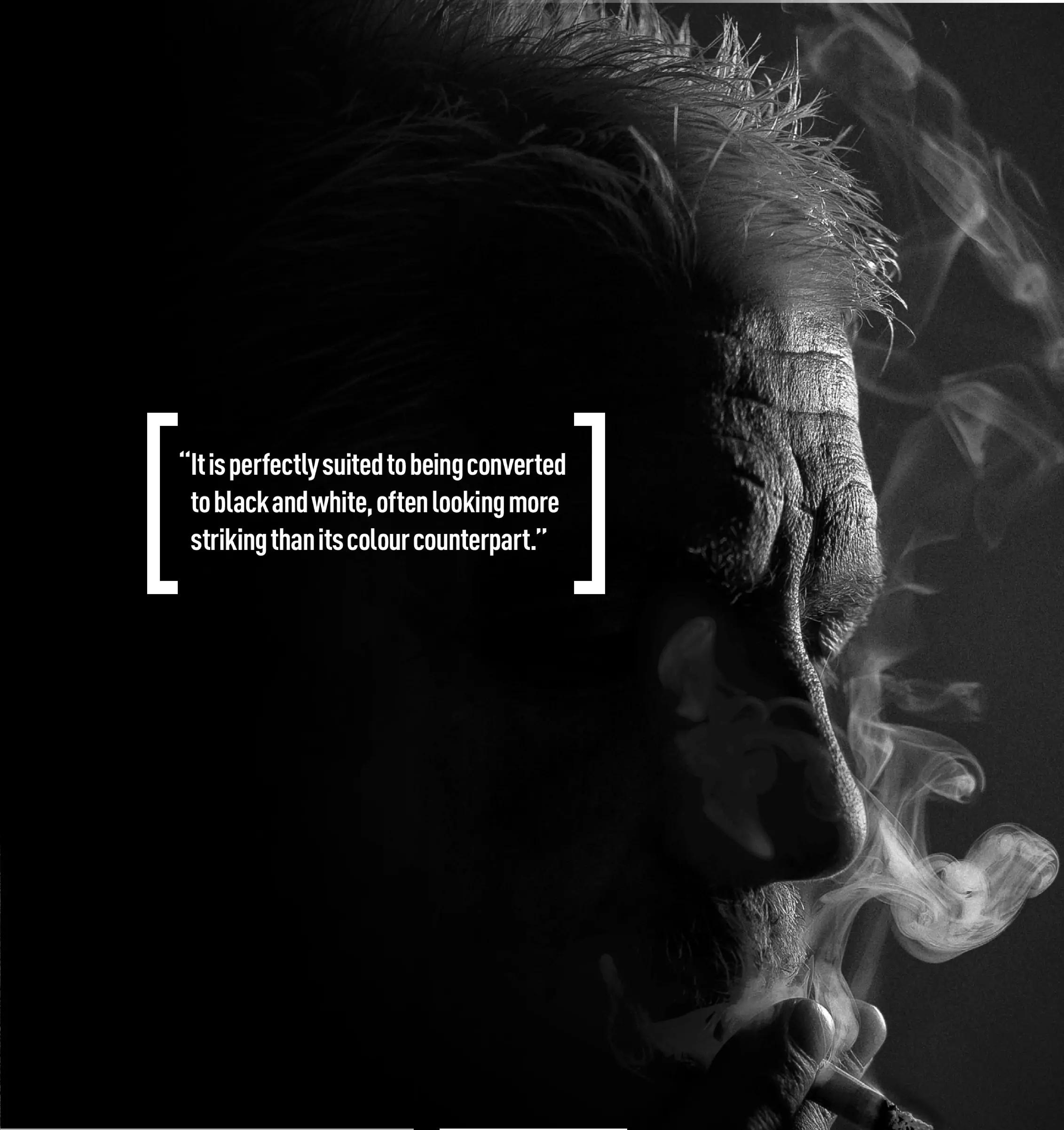
You can experiment with the placement of the light at different heights and angles. It is up to you to 'sculpt' the light that falls on your subject. Remember that it is the very small amounts of light tones and highlights in your image that guide the feel of the shot you are trying to make.

Just as with high-key, keep your camera on as low an ISO setting as you can get. Obviously, your shutter speeds are a key factor. You need to keep shutter speeds well in excess of 1/60th second to try and avoid camera shake. With a moving subject, or the use of a longer lens, you will need to go up to 1/125th or faster. In fact, the faster the shutter speed, the more chance you have of eliminating any ambient light that might spoil the shot. The resulting aperture must also be within the range that your flash can effectively light. If you have settings that mean you are using an aperture of f/16, then your flash must also be able to provide enough power to illuminate your subject at the distance you require. If not, then you will need to move your flash much closer to your subject, or increase the ISO so you're not working your flash beyond its limits. The closer you can get your image looking how you want it 'in camera', the more processing latitude you will have when working with the image in Photoshop. Dark images that are pushed too much can be very noisy in the shadow areas, so keep that in mind. ■



This image of Sarah-Jane is loaded with plenty of black and mid-tones to constitute a suitably low-key image. The location and the expression on her face also serve the mood. The mono conversion in Silver Efex Pro made sure shadows were amplified.

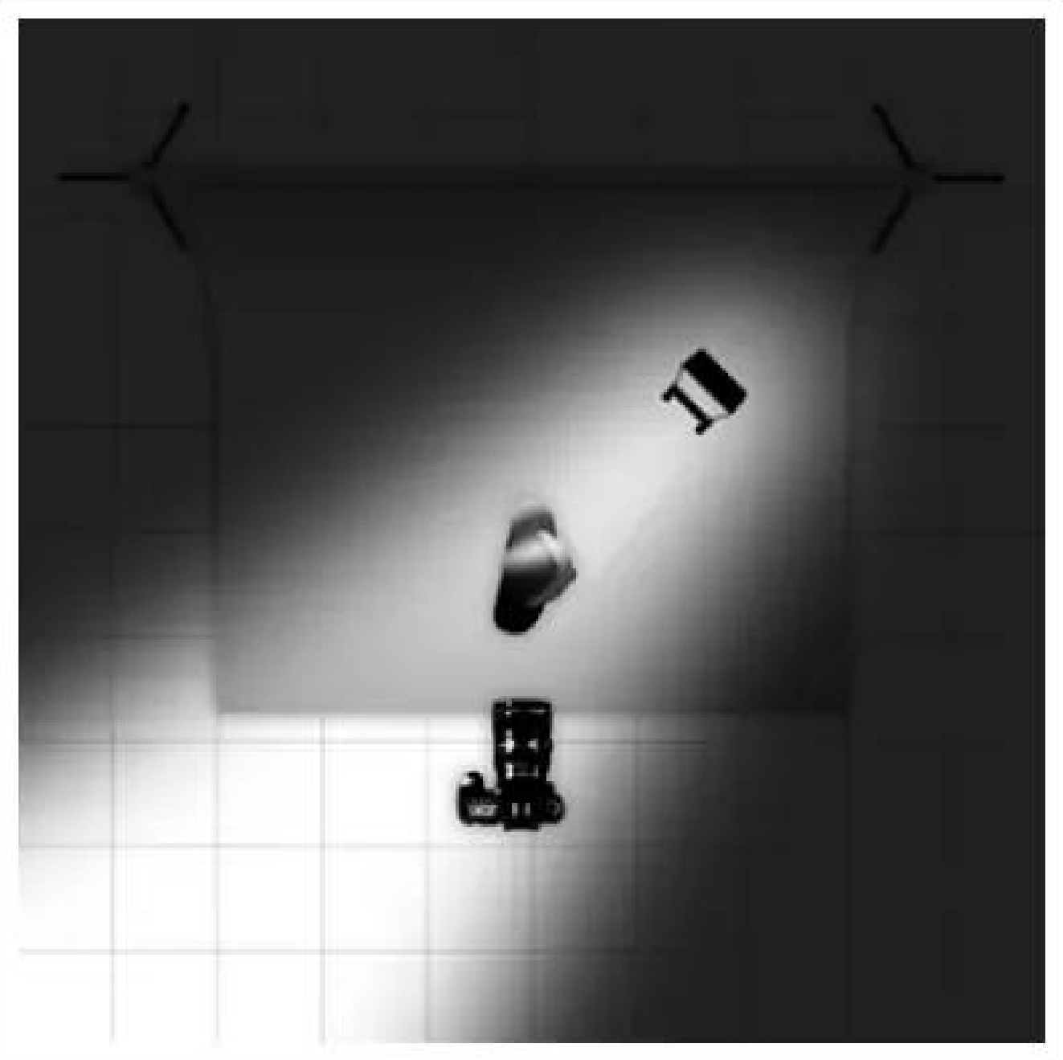
Canon 1DSMK3 - EF50mm f/1.4
f/5 - 1/160 - ISO 400



"It is perfectly suited to being converted to black and white, often looking more striking than its colour counterpart."

Using the same lighting setup as Steve on the previous page, this portrait of Dave was lit from the opposite side. Dave was turned slightly more to camera and the smoke from his cigarette was highlighted perfectly.

Canon 1DSMK3 - EF50mm f/1.4
f/2.8 - 1/160 - ISO 50

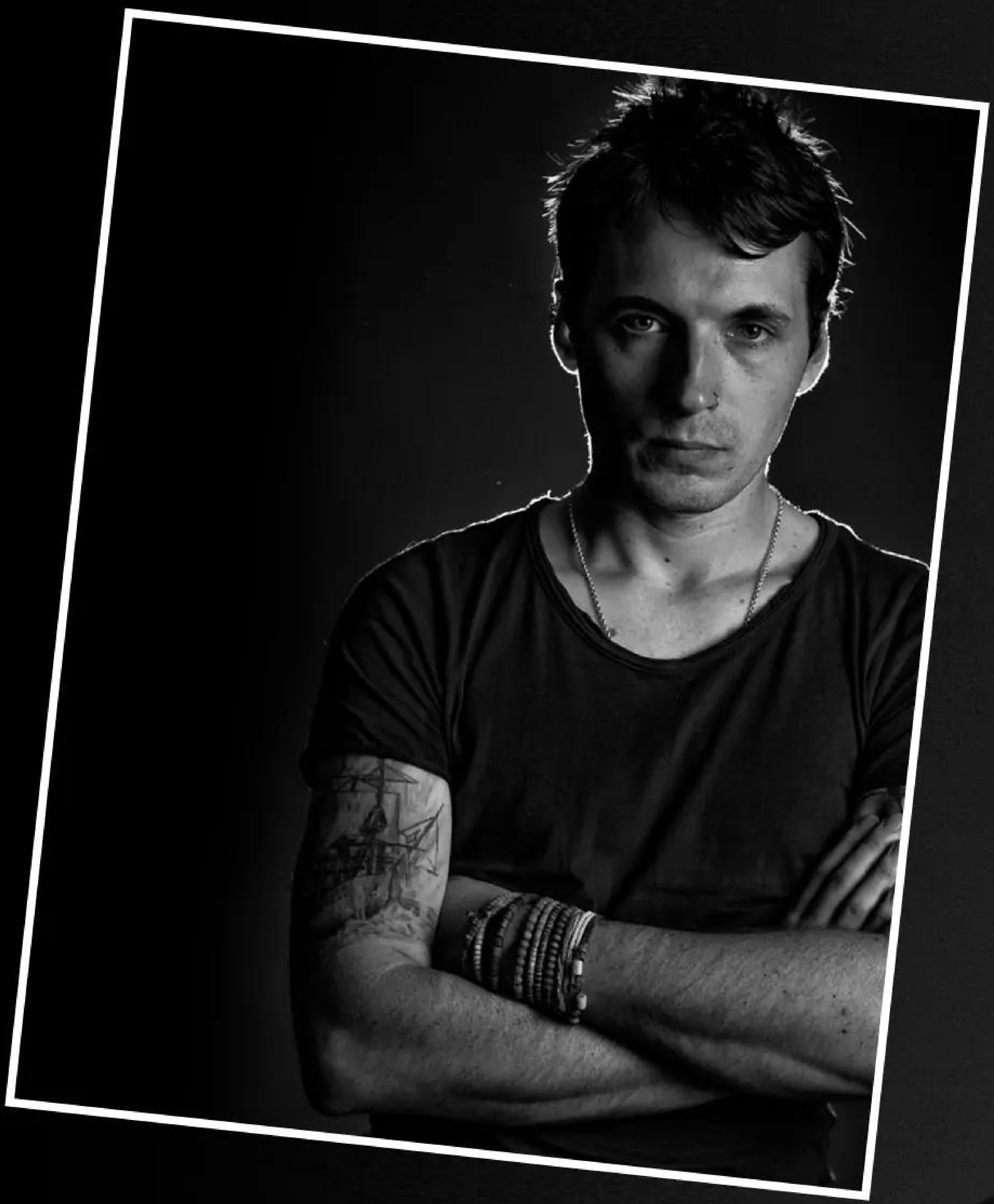


Bear in mind that portraits extend to more than just people. Here, Jazz and Willow are lit by a single Canon Speedlite with a beauty dish attached placed slightly above and behind them

Canon 1DSMK3 - EF50mm f/1.4
f/4 - 1/160 - ISO 125

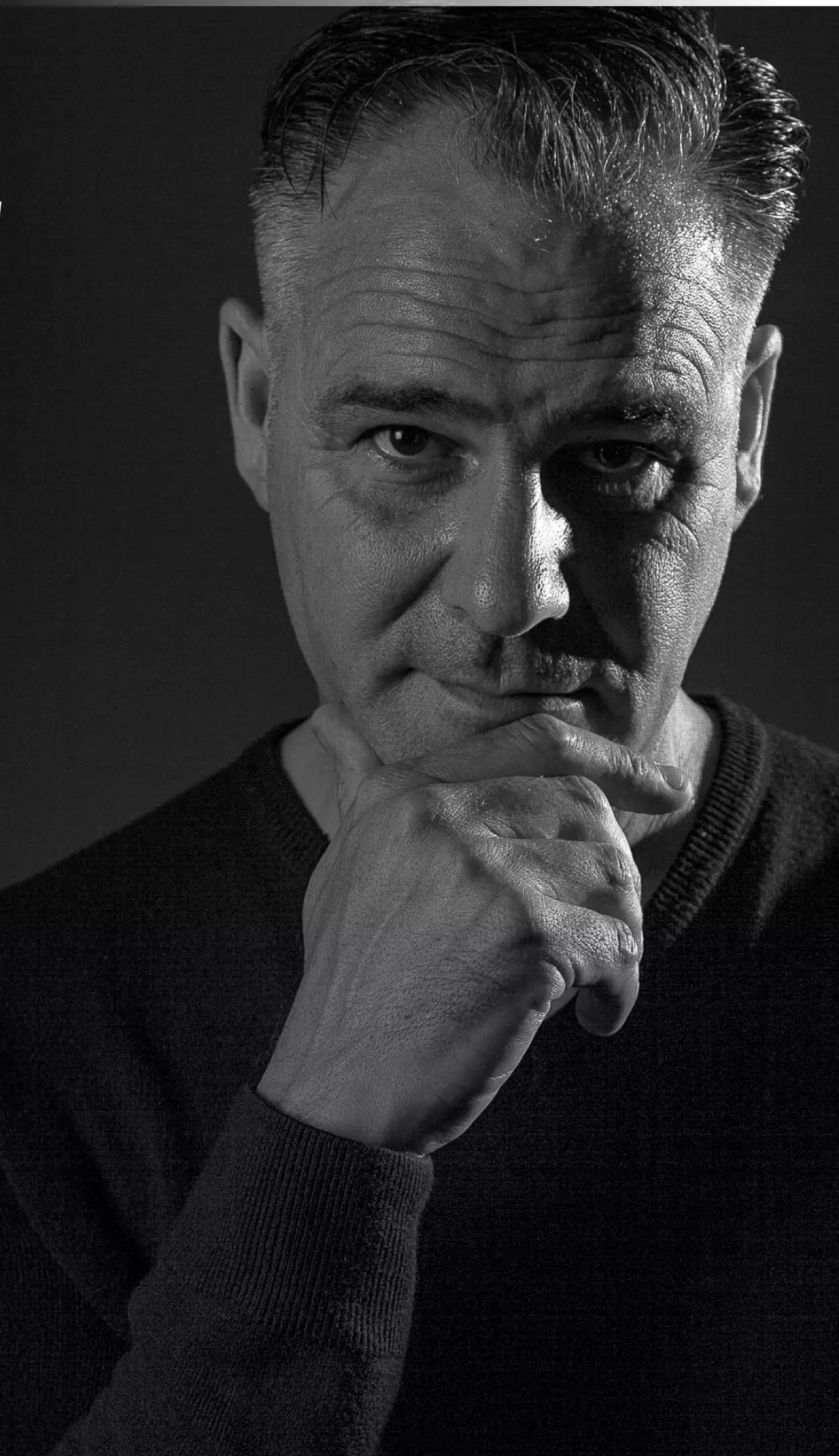
Although not perhaps the most traditional way of shooting a female portrait, Jess was side-lit to camera right and a reflector placed camera left to create a dark, jazz-club style portrait of a saxophonist.

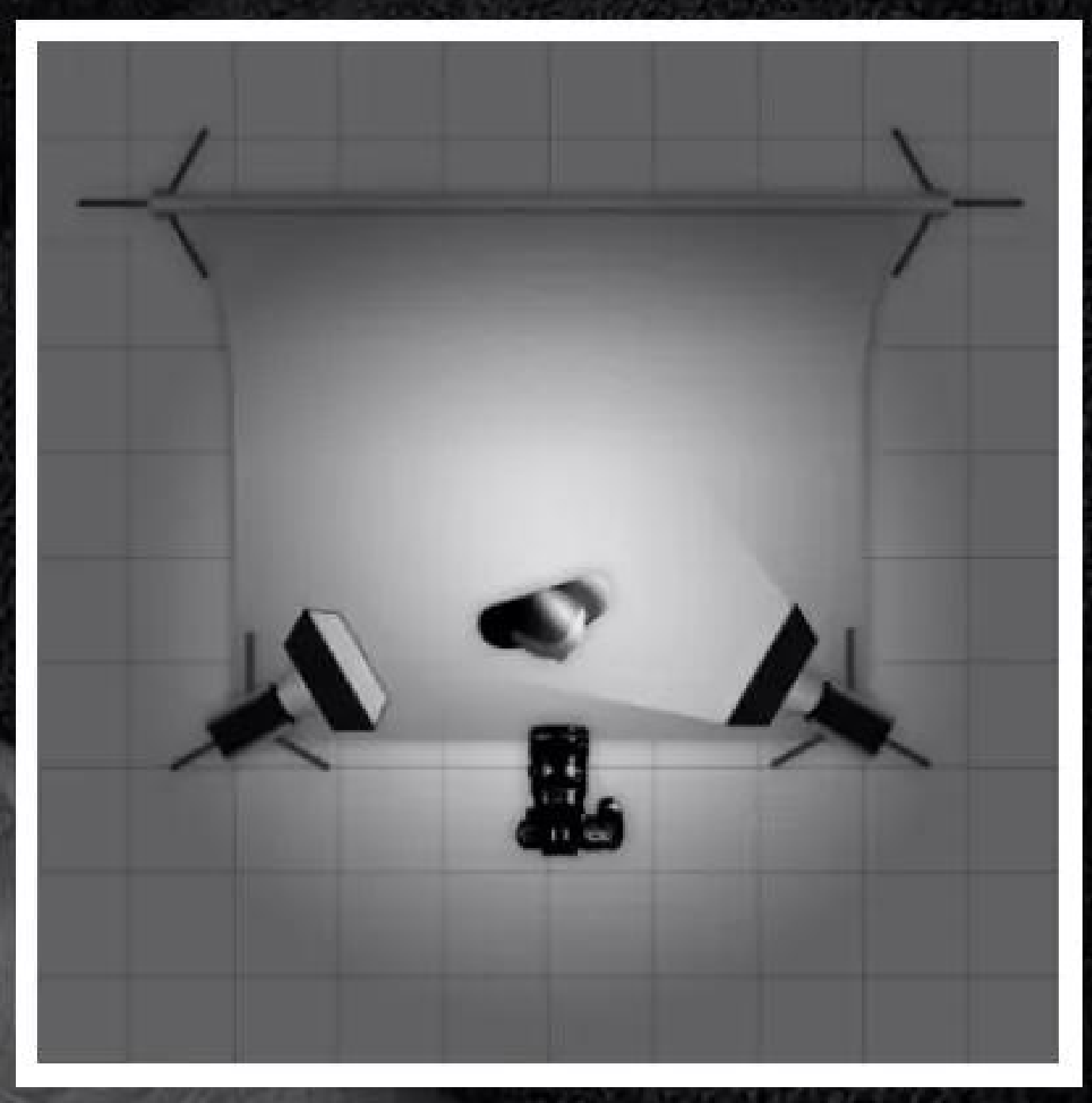
Canon 5DMK2 - EF24-105mm f4
f/5.6 - 1/160 - ISO 50



In addition to a key-light to camera right, another flash was put directly behind Dan, pointing at his shoulders, and set to over-expose by about 2-stops. This creates an interesting halo effect that separates his outline from the dark background.

Canon 1DSMK3 - EF50mm f/1.4
f/7.1 - 1/160 - ISO 100





Tim, in thoughtful repose, was lit by one key-light to camera right, and a second light to camera left at much reduced power to stop the dark side of his face falling into deep shadow.

Canon 5DMK2 - EF24-105mm f/4
f/5.6 - 1/160 - ISO 100

MONO LANDSCAPE PHOTOGRAPHY

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98 TESTING, TESTING
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99 AND FINALLY...

AFTER

The rocky northern end of Tresco in the Isles of Scilly. Converted to mono directly in Adobe Camera Raw with high Clarity values to bring out detail in the stone.

Canon 5DMK2 - EF24-105mm f/4
f/18 - 120 sec - ISO 50

Landscape photography tips

USEFUL TIPS TO TRANSFORM YOUR LANDSCAPE PHOTOGRAPHY

For many people new to the world of photography, one of the easiest and most accessible areas first explored with a new camera is the great outdoors. And why not? You don't need a studio or masses of expensive equipment; there is plenty of available light, unless you're feeling adventurous and want to try night photography; and beautiful seaside or countryside scenes are usually not too far away by car or a brisk walk.

Landscape photography is an amazing and rewarding experience for both novice and seasoned professional. Whether it's just a record of a day trip you've made to a new location or a more serious professional endeavour, landscapes, when taken well, are able to instill all sorts of emotions in the person looking at the shot. Even if it is that most mundane of emotions summed up in the simplest way: 'wish you were here'. So you have a new camera and you are itching to get out there and start snapping away, filling one memory card after another, right? Before you do, why not take a quick look at our essential photography tips.

Although there is no real right and wrong to shooting landscapes, there are a few tips that can elevate your shots and have them stand out against the general background noise of countless dull shots.

Landscapes are an excellent subject to convert into black and white. You only have to look at the work of Ansel Adams to appreciate that fact, but first you have to get out there and capture your source material before you can even think about mono conversions.

Over the next few pages we have a handy quick reference section that is an essential guide to the main hints, tips and tricks to help you plan and execute your landscape photography and make it the best it can be. ■

Thunder Hole in Torquay. Another mono conversion in Adobe Camera Raw, with the Blue Greyscale Mix set to negative values to darken the blue sky. Additional levels and sharpening adjustments were made in Photoshop to finish off the image.

Canon 1DSMK3 - EF16-35mm f/2.8
f/9 - 15 sec - ISO 50

> "Landscape photography is an amazing and rewarding experience for both novice and seasoned professional."

The Cobb, on the Dorset coast at sunrise. Removing colour gives you the chance to absorb the detail in the sky, the softness of the water and the texture of the harbour wall.

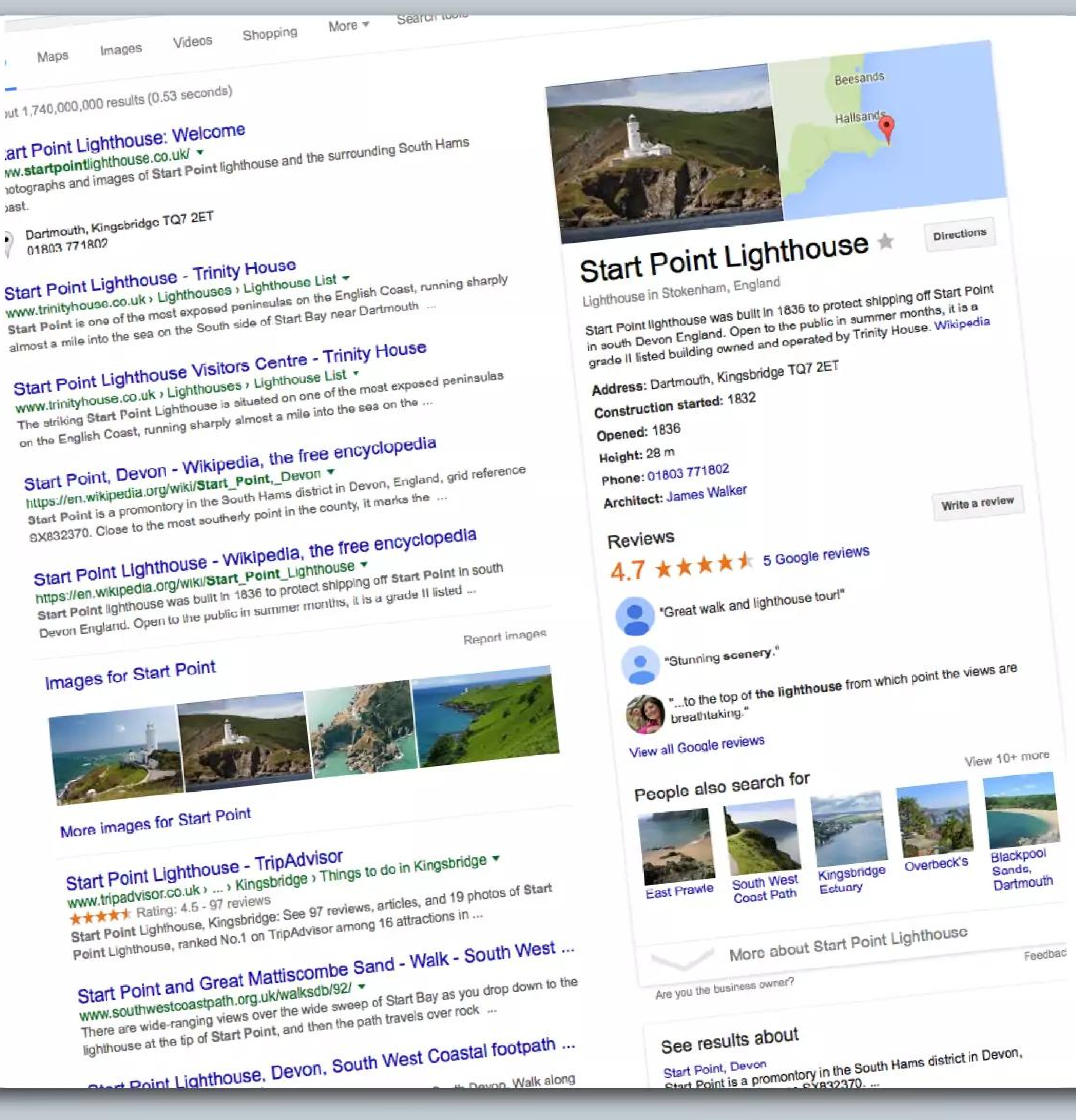
Canon 1DSMK3 - EF16-35mm f/2.8
f/11 - 2 sec - ISO 50

Landscape photography tips

1

Research your location

Take time to research your possible shooting destination if you have not been there before. Just Googling the location you want to shoot will call up all sorts of information. Most of it may be useless to you, but you can guarantee that there will be examples of other photographs taken there. The experiences of other photographers in this location will give you the heads-up as to whether it is an easy or difficult place to reach. There may be tips concerning local by-laws and the best nearby parking spots etc.



ut 1,740,000,000 results (0.53 seconds)

art Point Lighthouse: Welcome
w.startpointlighthouse.co.uk/ ▾
otographs and images of **Start Point** lighthouse and the surrounding South Hams
ast.
Dartmouth, Kingsbridge TQ7 2ET
01803 771802

Start Point Lighthouse - Trinity House
www.trinityhouse.co.uk › Lighthouses › Lighthouse List ▾
Start Point is one of the most exposed peninsulas on the English Coast, running sharply almost a mile into the sea on the South side of Start Bay near Dartmouth ...

Start Point Lighthouse Visitors Centre - Trinity House
www.trinityhouse.co.uk › Lighthouses › Lighthouse List ▾
The striking **Start Point** Lighthouse is situated on one of the most exposed peninsulas on the English Coast, running sharply almost a mile into the sea on the ...

Start Point, Devon - Wikipedia, the free encyclopedia
https://en.wikipedia.org/wiki/**Start_Point**,_Devon ▾
Start Point is a promontory in the South Hams district in Devon, England, grid reference SX832370. Close to the most southerly point in the county, it marks the ...

Start Point Lighthouse - Wikipedia, the free encyclopedia
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Start Point lighthouse was built in 1836 to protect shipping off **Start Point** in south Devon England. Open to the public in summer months, it is a grade II listed ...

Images for Start Point

More images for Start Point

Start Point Lighthouse - TripAdvisor
www.tripadvisor.co.uk › ... › Kingsbridge › Things to do in Kingsbridge ▾
★★★★★ Rating: 4.5 - 97 reviews
Start Point Lighthouse, Kingsbridge: See 97 reviews, articles, and 19 photos of **Start Point** Lighthouse, ranked No.1 on TripAdvisor among 16 attractions in ...

Start Point and Great Mattiscombe Sand - Walk - South West ...
www.southwestcoastpath.org.uk/walksdb/92/ ▾
There are wide-ranging views over the wide sweep of Start Bay as you drop down to the lighthouse at the tip of **Start Point**, and then the path travels over rock ...

Point Lighthouse, Devon, South West Coastal footpath ...

Start Point Lighthouse ☆
Lighthouse in Stokenham, England

Start Point lighthouse was built in 1836 to protect shipping off Start Point in south Devon England. Open to the public in summer months, it is a grade II listed building owned and operated by Trinity House. Wikipedia

Address: Dartmouth, Kingsbridge TQ7 2ET
Construction started: 1832
Opened: 1836
Height: 28 m
Phone: 01803 771802
Architect: James Walker

Reviews
4.7 ★★★★★ 5 Google reviews
"Great walk and lighthouse tour!"
"Stunning **scenery**."
"...to the top of **the lighthouse** from which point the views are breathtaking."
View all Google reviews

People also search for
View 10+ more
East Prawle
South West Coast Path
Kingsbridge Estuary
Overbeck's
Blackpool Sands, Dartmouth

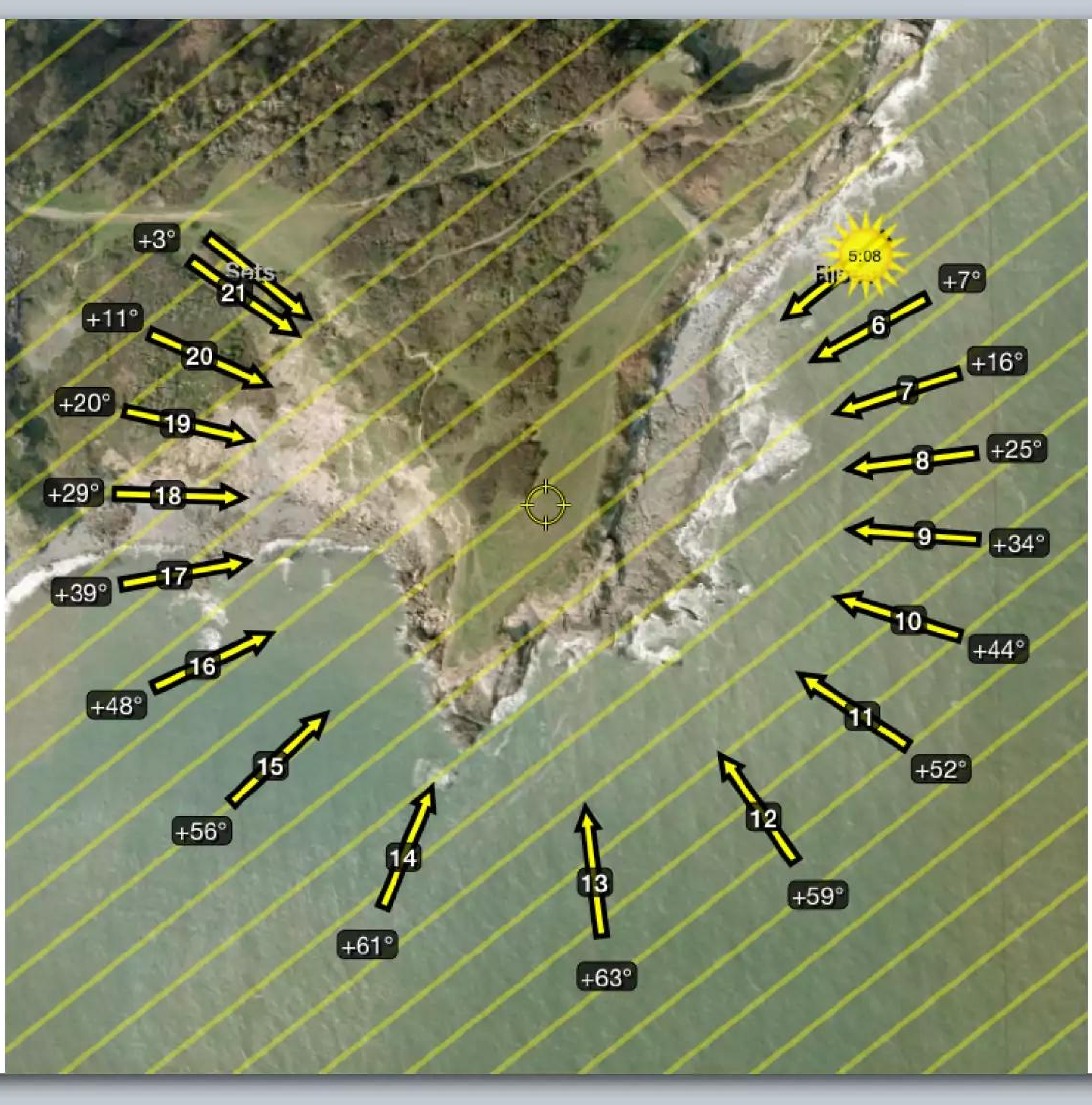
More about Start Point Lighthouse
Are you the business owner?

See results about
Start Point, Devon
Start Point is a promontory in the South Hams district in Devon,

2

There's an app for that

There are apps available that can tell you where the sun will be at any point on any given day. These apps can overlay information on a map of your given destination, showing where the sun will rise and fall, and where it will track through the sky on whichever day you choose. This is great for working out what time is best for you to shoot in the location you are researching. Shooting near sunset is a boon for the black and white photographer as shadows are long and contrast is high. There is also the possibility of capturing powerful silhouettes. Sunseeker for iOS and Sun Surveyor for Android are two great examples of these types of app.



3

Be prepared

Make sure you dress for the conditions you are shooting in. If you are going to be on rough terrain, then sturdy shoes are essential. A sprained ankle, miles from anywhere, could be very unpleasant. Travel light if possible, and the purchase of a good quality rucksack or rough-terrain camera bag will stand you in good stead for your journey. Make sure someone knows you are out there and that you have your phone with you at all times. You never know.

4

Visualise the shots

Take the time to actually look around the landscape you are in. Before taking any photos, scan your surroundings and try to visualise where the best shots may be taken from. In fact, sometimes it is good practice to go to a location in advance of taking any actual shots and just walk through the landscape, taking note of the best positions, angles and viewpoints for future reference. Create a list that you can reference when you arrive to take the shots in earnest. Keep in mind the key requirements the image needs when converted to black and white. Form, composition, light and texture will define your shot when seen in black and white.

Landscape photography tips

5

Don't lose it

A handheld GPS unit may be a bit of a luxury, but if you are out wandering the hills and valleys and happen upon some quiet unseen beauty spot, a GPS device can mark its co-ordinates to enable you to find it again if you wish to return to shoot more images. Manufacturers such as Garmin have a range of devices starting at reasonable prices. Let's face it, the GPS might also prove to be a lifesaver if you get lost in the middle of nowhere and need to find your way back to your car.

GPSMAP 64st
GARMIN
FIND
MARK
QUIT
ENTER
MENU
PAGE
OUT

6

Boots are made for walking

Be prepared to walk far and wide. The best landscape shots are most often the ones that are well off the beaten track. Driving to a local beauty spot and taking a shot from your car window will not yield images that are exceptional and different. The person in the next car taking the same shot will attest to that. If you want great shots, you have to get out of your car and start walking to find that spot or viewpoint that no one else can see - at least, not from the car park anyway.

7

Light fantastic

In photography you may hear reference to 'the golden hour'. For gorgeous landscapes you cannot do better that to shoot at sunrise and for an hour or so after that, or at sunset, and the hour or so before it sets. The light has a luminous quality, shadows are long and show off the contours of the land, which is ideal for a strong mono image. The sky ignites with various hues, and if you catch a sunrise or sunset with an interesting set of cloud formations, then the more texture and detail, the better for black and white. Watch the local weather forecasts for the area you intend to shoot.

8

Sweet light

There is also what is referred to as 'the blue hour'. This is the twilight period you experience at either end of the day when the sun is a fair distance below the horizon, but its influence can be seen in the sky. A 'sweet' light, it can be suggestive of romance, and is treasured by artists. It is ideal for cityscapes where you can capture the city lights against a deep, inky, blue sky. You need to be aware, though, that the window of opportunity is relatively small before either the sun rises and lights the sky, or it sinks and renders the sky black. It usually lasts about 45 minutes after the sun has set, or before it rises.

9

Stable conditions

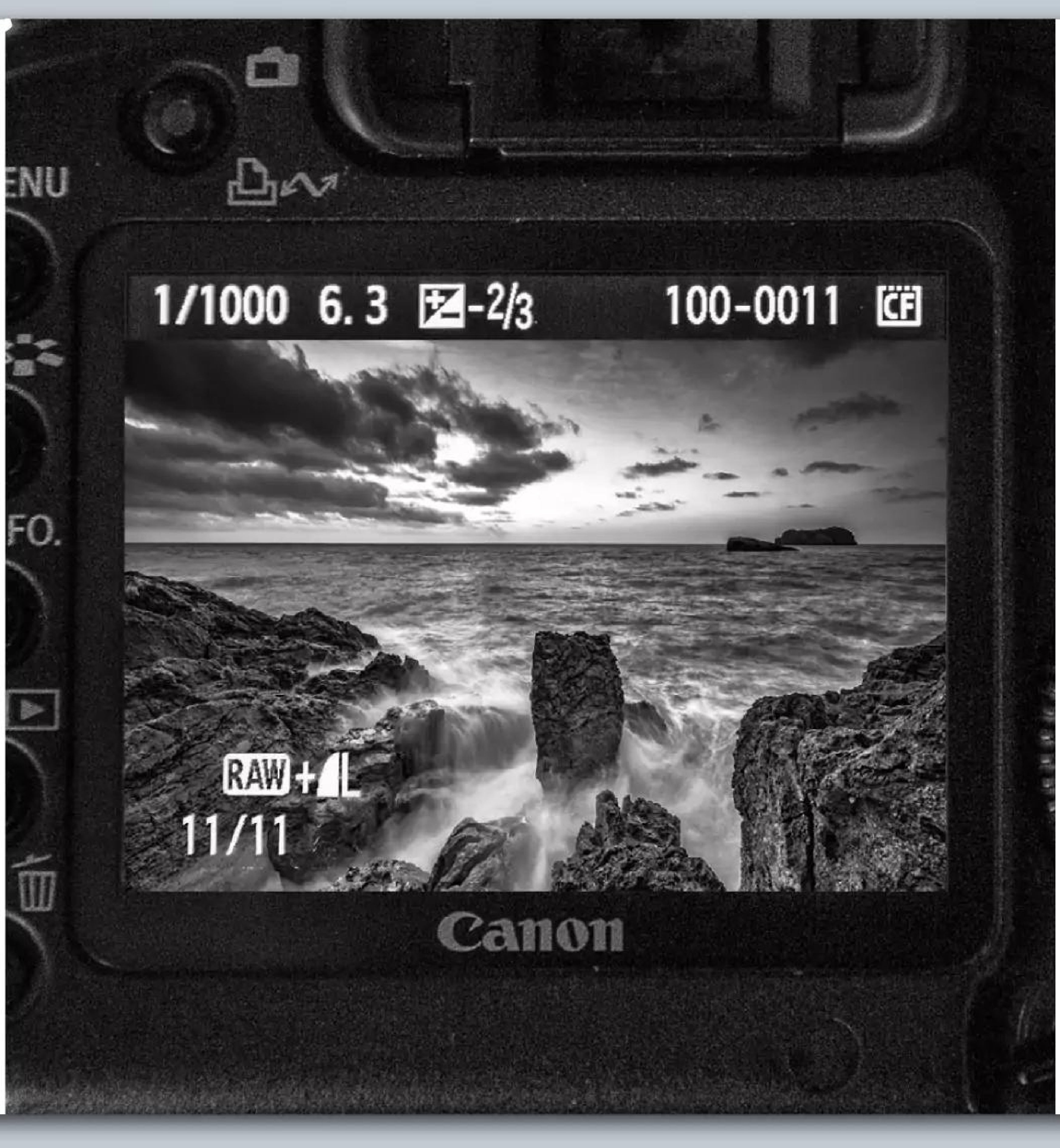
A tripod is a must for landscape work. You may be working in low light conditions and handheld shots are not going to yield sharp images. You might also want longer exposure times to render water soft and misty, or show clouds moving in the shot over a number of seconds for added drama. An effect that works particularly well in black and white. There are plenty of strong, lightweight tripods to choose from that won't be a chore to carry with you on your shoot. Couple a cable release with it and you are taking big steps in reducing any unwanted camera shake and vibration.

Canon
TIMER REMOTE CONTROLLER
TC-80N3

10

A golden rule

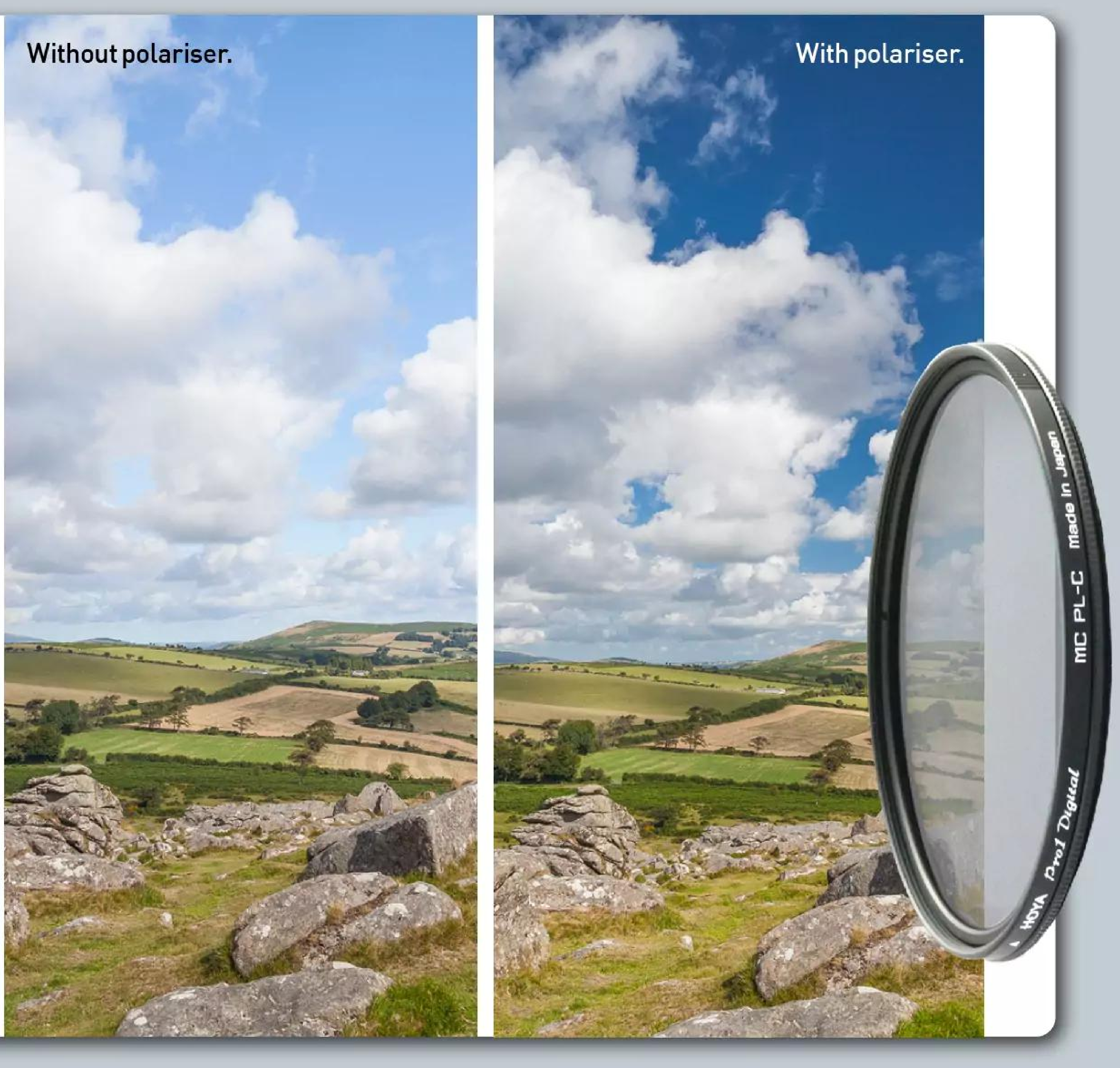
Try to get out of the habit of shooting jpegs. It can't be stressed enough: if you want the best from your shots, you need to switch to Raw shooting mode. Most modern cameras now allow you to capture your images in Raw format. Raw, as the name suggests, is the uncompressed and unprocessed image data straight from the camera's sensor. The files are much bigger than their jpeg counterpart, but they give much greater latitude when it comes to processing your final image. Details lost in deep shadow in the original shot may be revealed through careful processing; and bright areas of the image where detail is blown out can be recovered. You can also enhance the image's contrast, tonal qualities and exposure.



11

Filter systems

Think about investing in some filters. A circular polariser is very useful. It can boost the contrast in blue skies and white clouds which is very useful when converting to mono as you can create gorgeously dark skies with bright white clouds. Just be aware that polarisers work best when the sun is behind you, or at least over each shoulder. If you are serious about your landscape photography, probably the single best one you could purchase is a neutral density graduated filter. If you are shooting a scene where there is a large difference in the tonal values between your land and a bright sky, the ND grad will help stop those skies from burning out. Even the best mono conversion can't recover from that.



Without polariser.

With polariser.

12

Off in the distance

Don't always assume that your landscape has to be shot with the widest lens you have. Sometimes a longer focal length is great for picking out distant details that a wide-angle lens could not. Zoom lenses are also a good choice as they allow you to zoom in and out, allowing you to crop your shots and alter the composition without having to move large distances. Lenses in the 24mm-105mm range are good intermediate wide-angle zooms which give you a lot of framing choices. It is not uncommon to be using zoom lenses in the 70mm-200mm range. Don't forget to shoot in portrait orientation too. Keep experimenting.

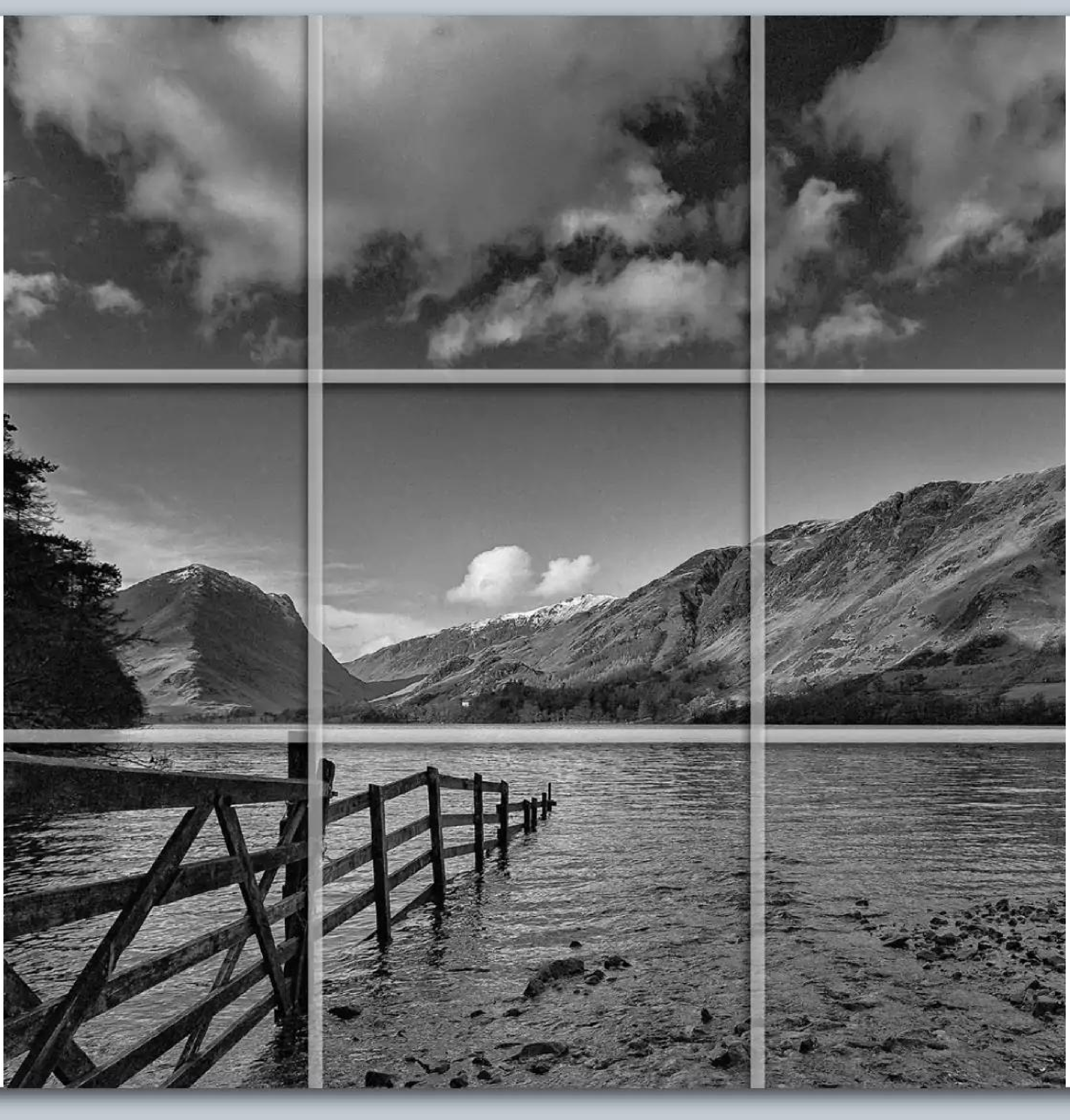
Canon
EOS-1D
AF MF
STABILIZER ON OFF
STABILIZER MODE
HDMI

Landscape photography tips

13

Framing and composition

Composition is a very subjective thing. What looks good to your eye may look odd to someone else. If nothing else, keep the 'rule of thirds' as your main compositional tool, along with leading lines to draw you into the shot. Imagine that your frame is split by lines into thirds, both vertically and horizontally. Placing an object of interest at one of the points where these lines would intersect means you are adhering to the rule, and this will help bring balance to your shot. That's not to say you must always shoot by this rule. Rules can be broken, so it's up to you. Don't be afraid to try out different ideas. They may not always work, but have fun trying.



14

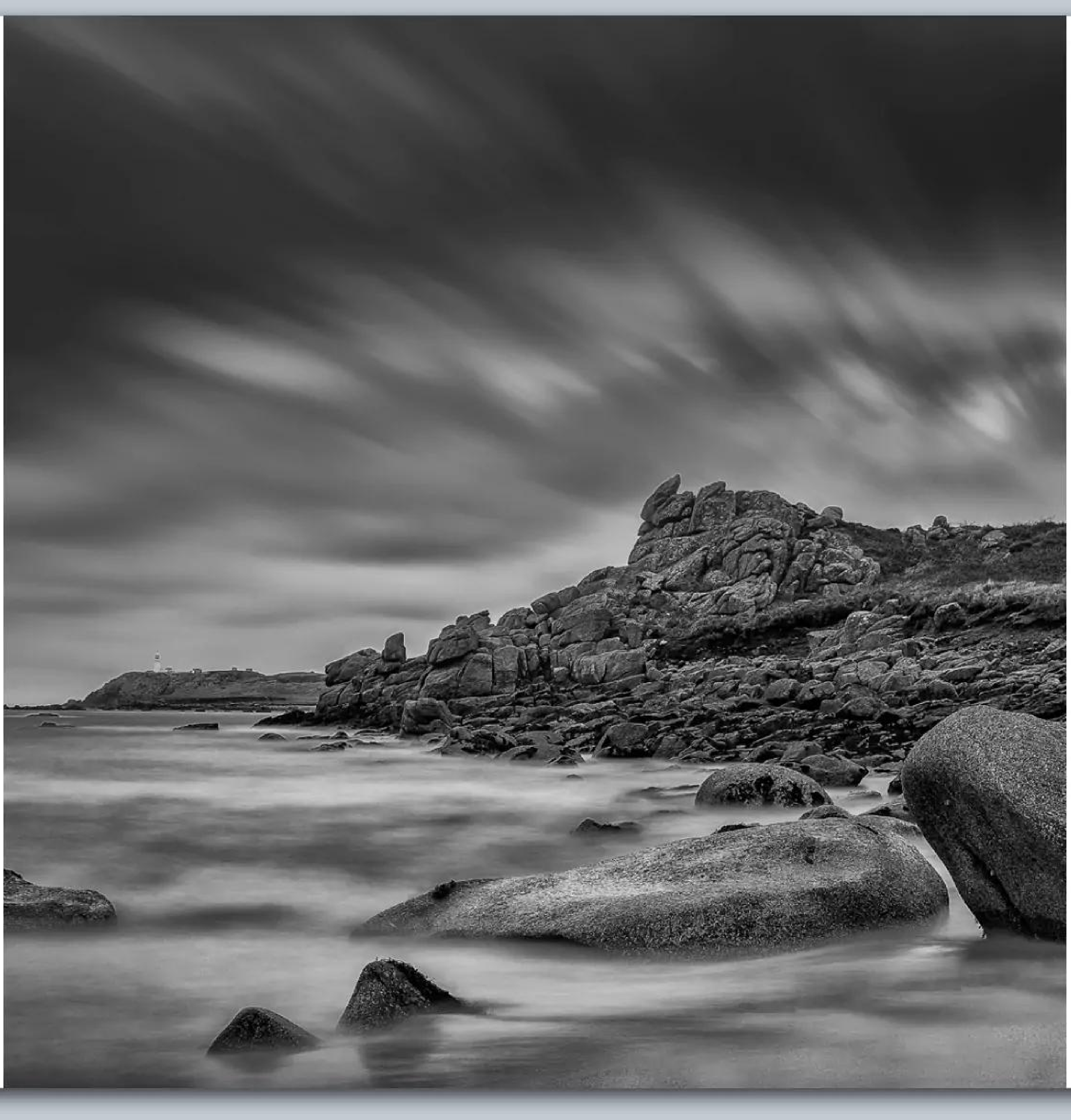
Stay sharp

More often than not, many photographers will want their scene to be as sharp as possible from front to back. This ensures that a foreground object like a tree, and a distant object such as a mountain, are both as sharp as possible. This is where depth of field comes into play. At large apertures such as f/2.8, the area of sharp focus in front and behind the point of focus will be relatively small. If you use a much smaller aperture such as f/22, that 'zone' of sharp focus is much greater. As a very rough and general guide, if you focus on a point about one third of the distance into your scene, you are giving yourself the best chance of maximising the depth of field available.

15

Maximum exposure

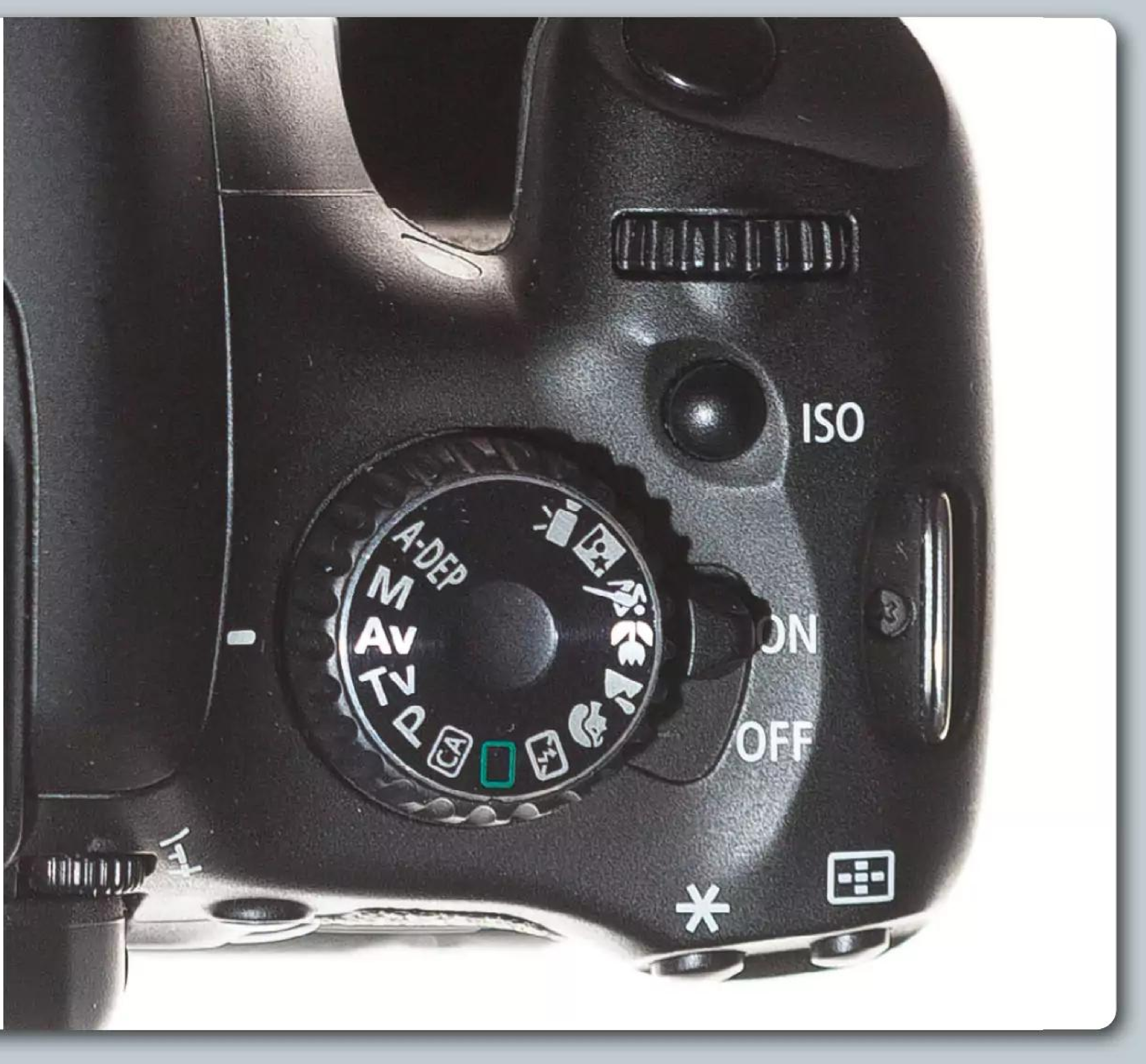
Consider using longer exposures in your landscape shots. Photographers often employ exposures that last seconds, or even tens of seconds, to show clouds streaking across the sky rather than looking static and puffy. Black and white loves these kinds of shots. The classic is to shoot moving water using long exposures. Waves crashing against a shore with an exposure of one or two seconds show the water as a dynamic and powerful fluid; the same scene shot with a much longer exposure will turn the water to a misty, milky fog. It is safe to say that your tripod is the key to the success of these images.



16

Take control

If you are relatively new to DSLR photography, you may still be using your camera's auto or semi-auto functions where it will decide on the best settings to use in either Shutter Priority or Aperture Priority. In many cases this is fine for general shooting conditions. However, to get the most from your camera, you need to take manual control. Your camera doesn't know the shot you may be trying to achieve. As long as it is in auto, it will keep making decisions for you and you will end up with shots that don't match your expectations. In manual mode, you can decide on how the scene is exposed. Make the creative decisions; don't leave it to your camera.



17

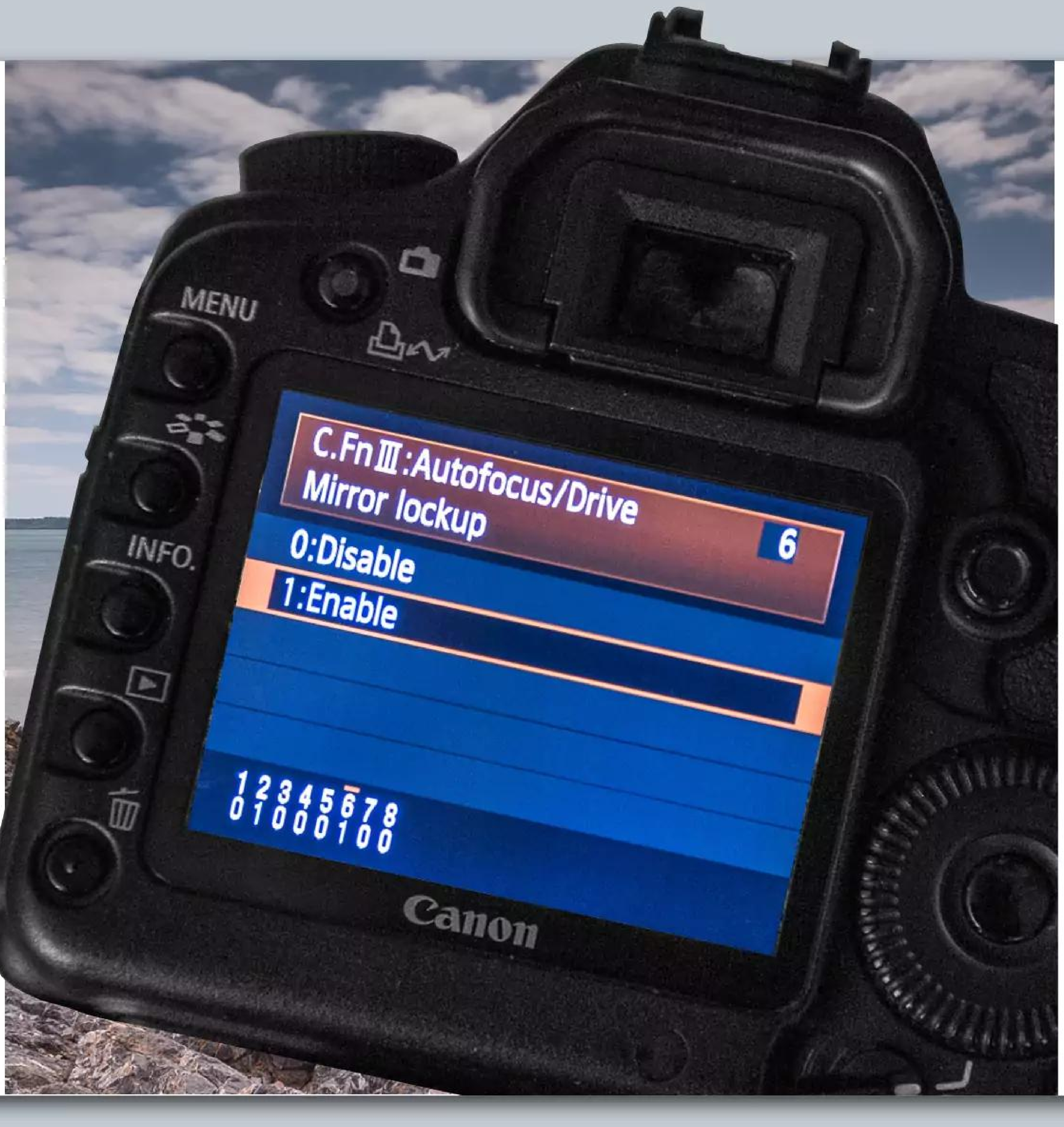
Testing, testing

Don't be afraid to shoot a number of test shots handheld. Turning up at a location, sticking your camera straight onto the tripod and shooting at head height may not be the most ideal viewing angle. Try shooting a number of frames where you experiment with different angles: high viewpoints; low to the ground; portrait and landscape orientations. Try out different compositions and framing. Are there any foreground distractions where you are? Is there an interesting feature elsewhere that will enhance the shot? Remember to try and think in black and white. Sometimes the simplest composition, which looks wrong in colour, is suddenly transformed when seen in black and white.

18

Lock it up

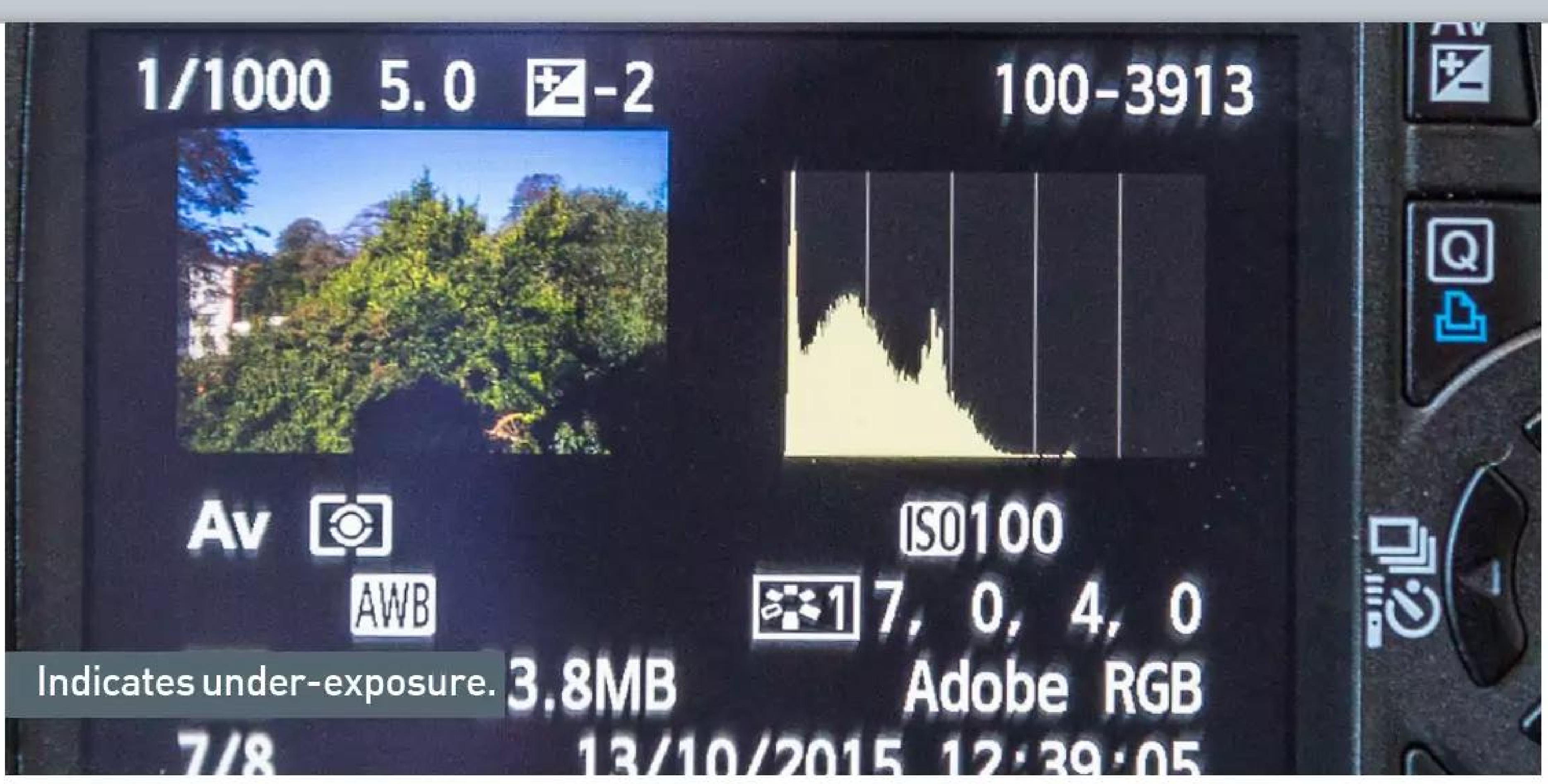
When you are set up and ready to take your shots, consider the stability of your tripod. Even the sturdiest tripods can move in the wind or if the ground is slightly soft. In addition, even the movement of your camera's mirror flipping up and down with each shot can create vibrations that affect a shot's sharpness. If you set your camera for mirror lock-up, it will flip the mirror out of the way long before the shutter opens to take the shot, giving time for any vibrations to cease. Couple this with a cable release or a remote trigger to fire the camera without you needing to touch it, then you have increased your chances of removing unwanted camera shake.



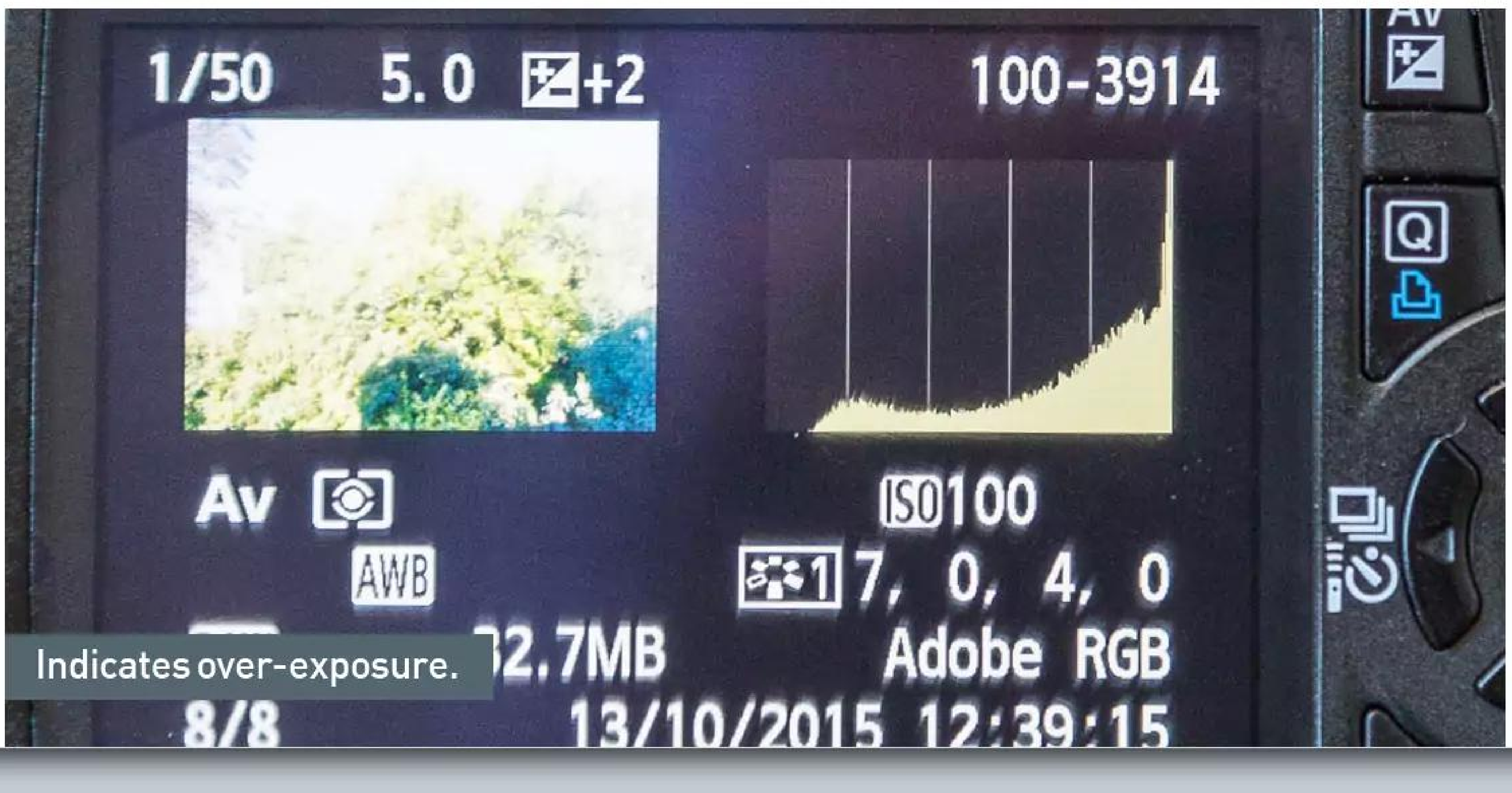
19

Don’t fear the histogram

Most DSLR’s and a lot of the more advanced compact cameras have the option to display a histogram of the images you capture. A histogram is a graphic representation of the tonal values in your shot and how they are distributed. If the graph is bunched at the far left, then your shot is very underexposed and you risk the loss of a lot of detail to shadow areas. If it is sliding off the right hand side, then it will be overexposed and detail will be lost in the highlight areas. The more dynamic range you can capture in colour, the more scope you have when you come to do your conversion to black and white.



Indicates under-exposure.



Indicates over-exposure.

20

And finally...

Always review your shots after you take them. It can be very disheartening to take what you think is a wonderful shot, only to get home, process the shot and see that it is out of focus or badly framed. Use your cameras LCD screen to zoom into your shots and check them for sharpness and detail, and confirm the composition is looking how you imagined. If you’re luck enough to have a small laptop or tablet with you, download them and review on those. Bear in mind that not all cameras show you 100% of the frame in the optical or electronic viewfinder, so reviewing images on the LCD or on-screen is important.

> “Like all true art it’s hard to define, and equally hard to master.”

ABSTRACT BLACK AND WHITE PHOTOGRAPHY

AN INTRODUCTION TO THE TECHNIQUES OF ABSTRACT ART AND PHOTOGRAPHY

Abstract photography is the representation of scenes and objects in a manner that divorces them from their context and creates a pure artistic image. Like all true art it’s hard to define, and equally hard to master.

We have already made a lot of reference to shape, form and the absence of colour in this black and white special. When it comes to abstract images it is even more relevant. Remove colour from an abstract image and you take away another visual clue by which you could possibly identify it. You are left only with shape, tone, form, pattern and texture. This is a positive boon to the abstract photographer because that is exactly what you are after. We can explore the possibilities of the nature of black and white photographic abstraction over the next few pages. ■

> **"...it is possible to create photographs that stand on their own as works of art without the burden of context."**

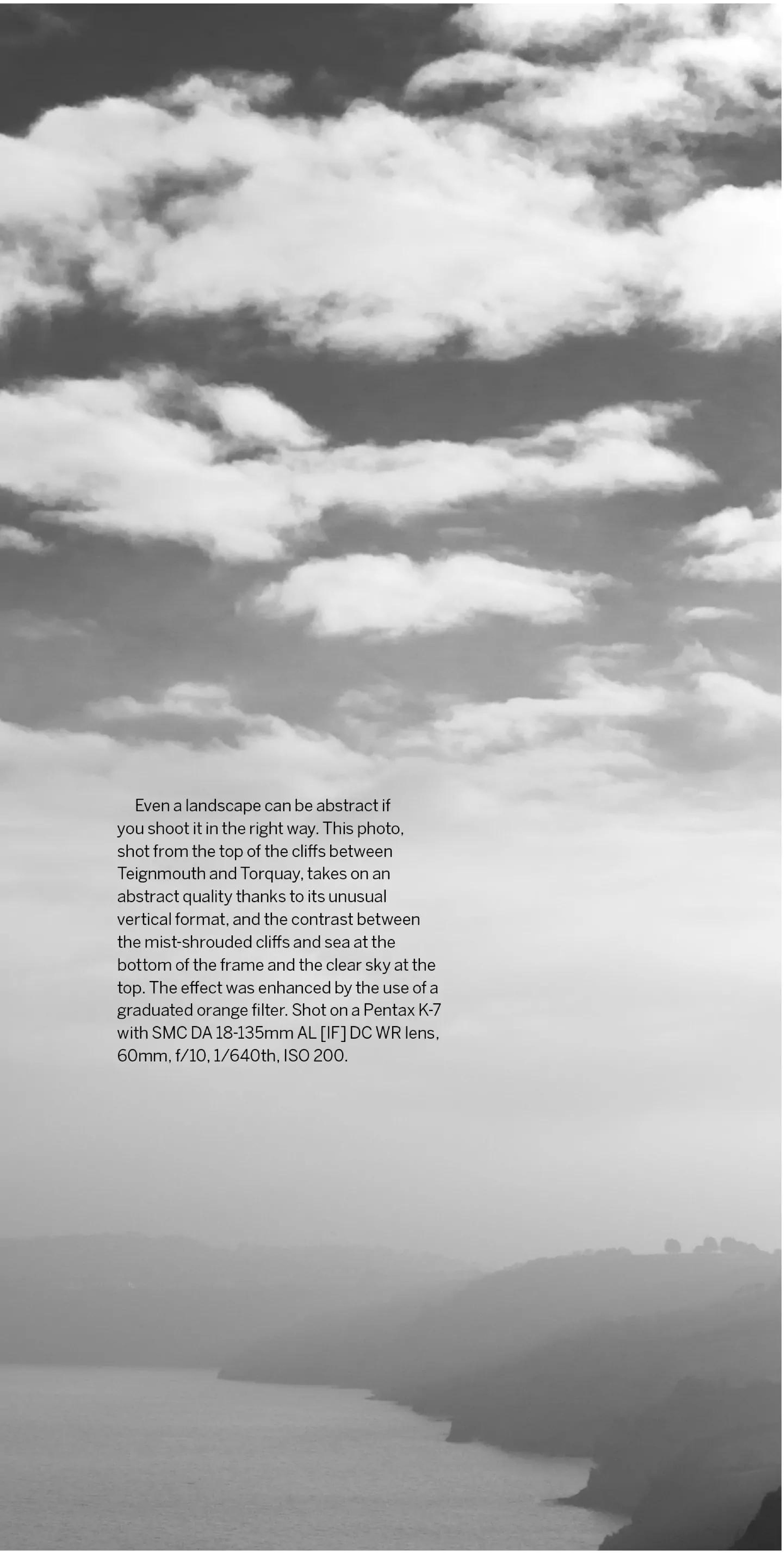
Introduction to abstract photography

WHAT EXACTLY IS ABSTRACT PHOTOGRAPHY? IT DEPENDS WHO YOU ASK

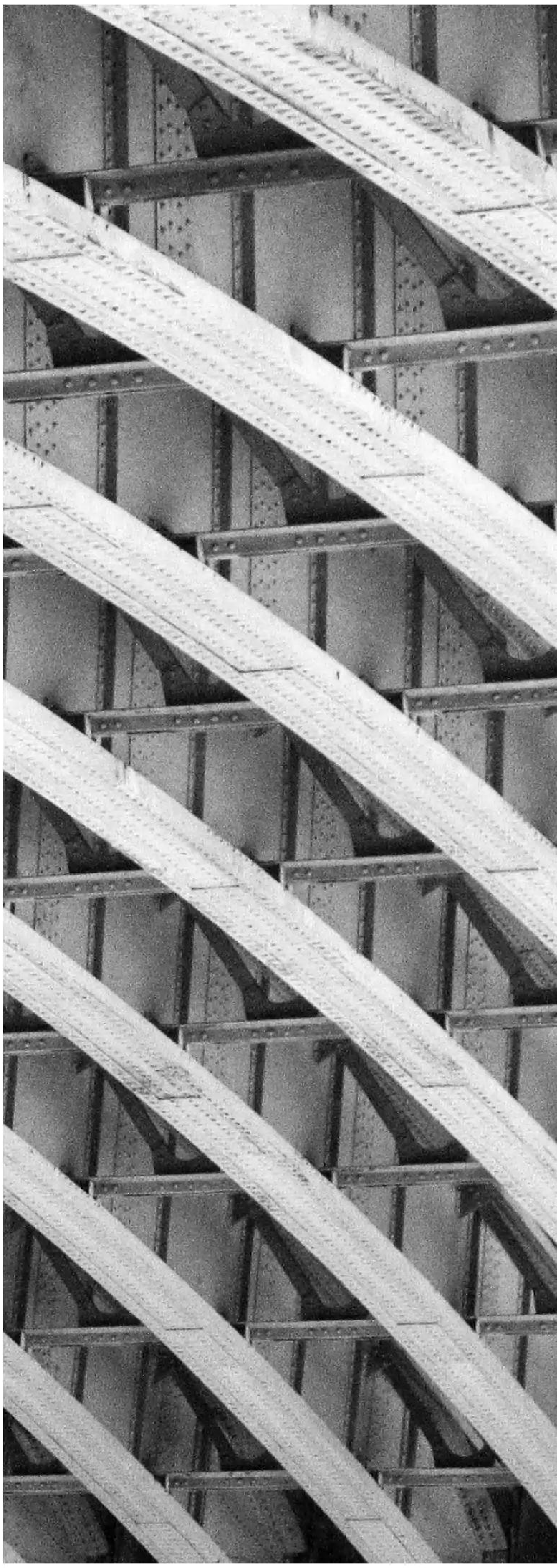
The techniques of black and white photography are well suited to abstract art. The world seen without colour is already one step removed from the everyday perceived reality. Adding techniques such as selective focus, narrow depth of field, extreme contrast; and by paying attention to composition, contrast and lighting; it is possible to create photographs that stand on their own as works of art without the burden of context.

An everyday object or scene, when photographed in a particular way, can take on an unreal appearance, elevating them above the mundane. Something as simple as a supermarket trolley, the branch of a tree or the smoke from a cigarette, shot in isolation, with particular lighting or from an unusual angle, can take on a new meaning or no meaning at all.

The preceding paragraph might have sounded a bit pretentious, and for that we apologise, but defining exactly what is and isn't abstract photography is very difficult. Depending on whom you ask, any photograph that represents a recognisable object can't possibly be abstract; but Man Ray photographed a curly lampshade in sunlight and that's widely regarded as a prime example of abstract photography. Over the next few pages we'll show you some black and white images that fall into this broad category and offer a few tips on how they were achieved and what they mean to us. ■



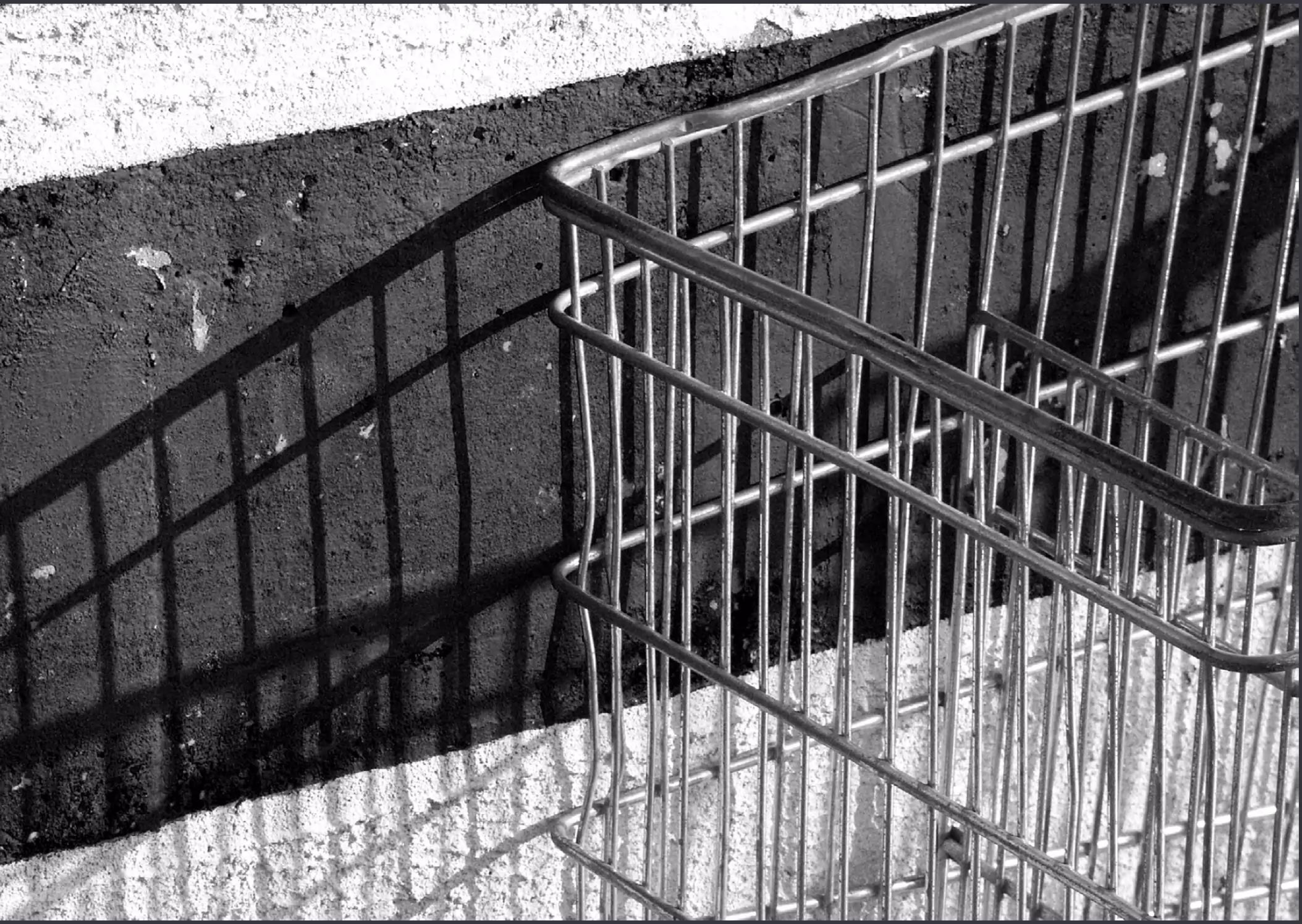
Even a landscape can be abstract if you shoot it in the right way. This photo, shot from the top of the cliffs between Teignmouth and Torquay, takes on an abstract quality thanks to its unusual vertical format, and the contrast between the mist-shrouded cliffs and sea at the bottom of the frame and the clear sky at the top. The effect was enhanced by the use of a graduated orange filter. Shot on a Pentax K-7 with SMC DA 18-135mm AL [IF] DC WR lens, 60mm, f/10, 1/640th, ISO 200.



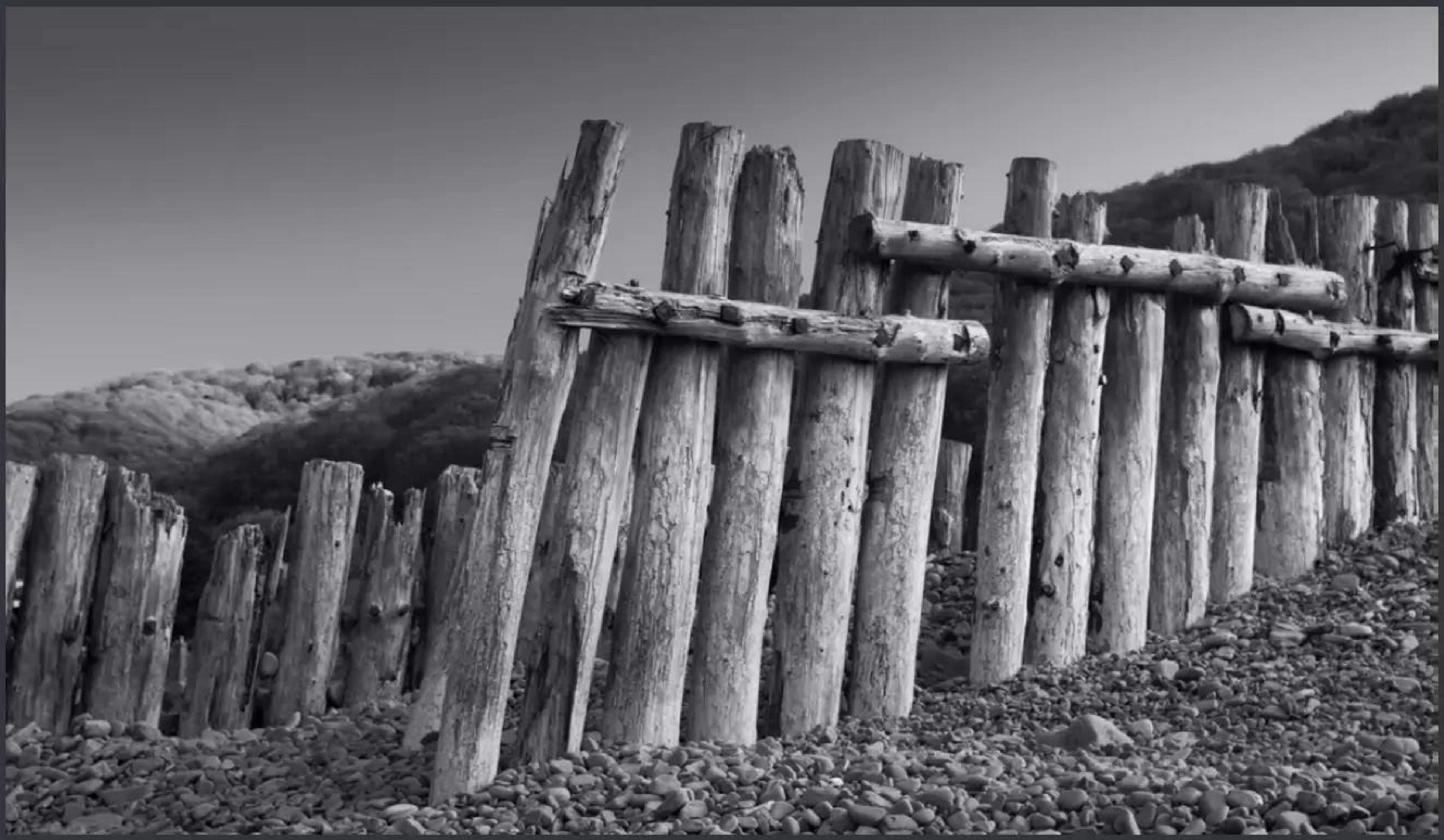
You don't need a big fancy DSLR to shoot abstract images. This hypnotic geometrical pattern is the roof of Paddington station, shot using a Canon Ixus 500 compact camera, which has a simple 3x zoom lens. To isolate the shape of the roof girders from their surroundings and emphasise the abstract nature of their geometrical pattern, the lens was set to its maximum zoom, and the camera mounted on a Gorillapod flexible tripod fixed to a handrail of the footbridge at the end of the platform. The colour JPEG image was converted to monochrome using Photoshop's black and white adjustment filter. 22.2mm, f/4.9, 1/160th, ISO 400.

Abstract photography

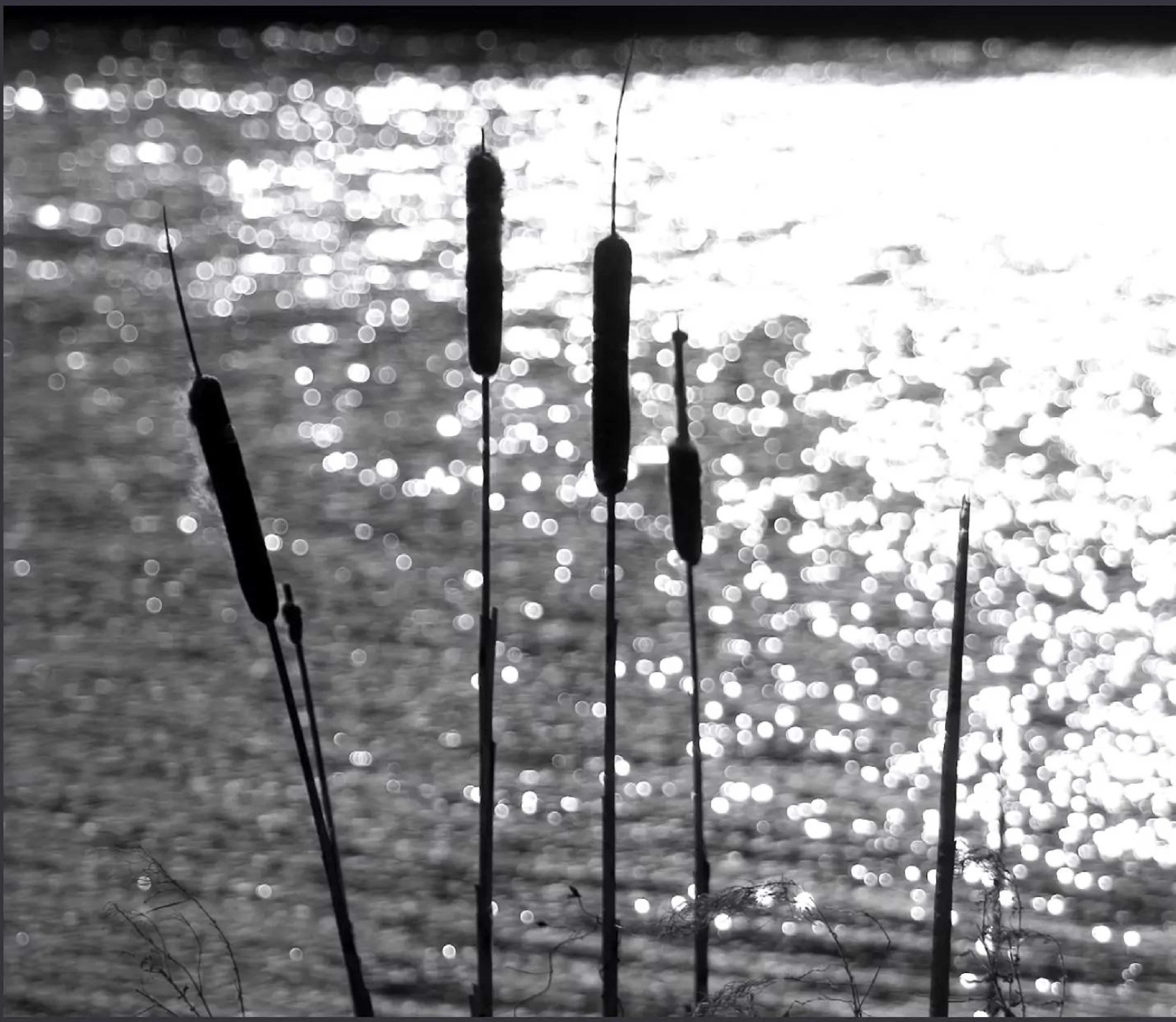
You can find abstract images in the most commonplace locations; in fact it's a useful educational exercise to go to a place you wouldn't think of as a photographic location and see if you can shoot at least three good photos there. This shot of a battered shopping trolley casting a stark shadow on a concrete wall was taken in a supermarket car park in Bournemouth. The contrasting textures and strong lines make a striking composition; and by zooming in and isolating just a small part of the subject, those qualities are emphasised. The photo definitely has a distinct mood despite its humble origins. It was shot in raw mode on a Minolta Dimage 7Hi at close range and nearly maximum zoom, and converted to monochrome in Adobe Camera Raw. 43.4mm (171mm equiv.), f/8, 1/180th, ISO 100.

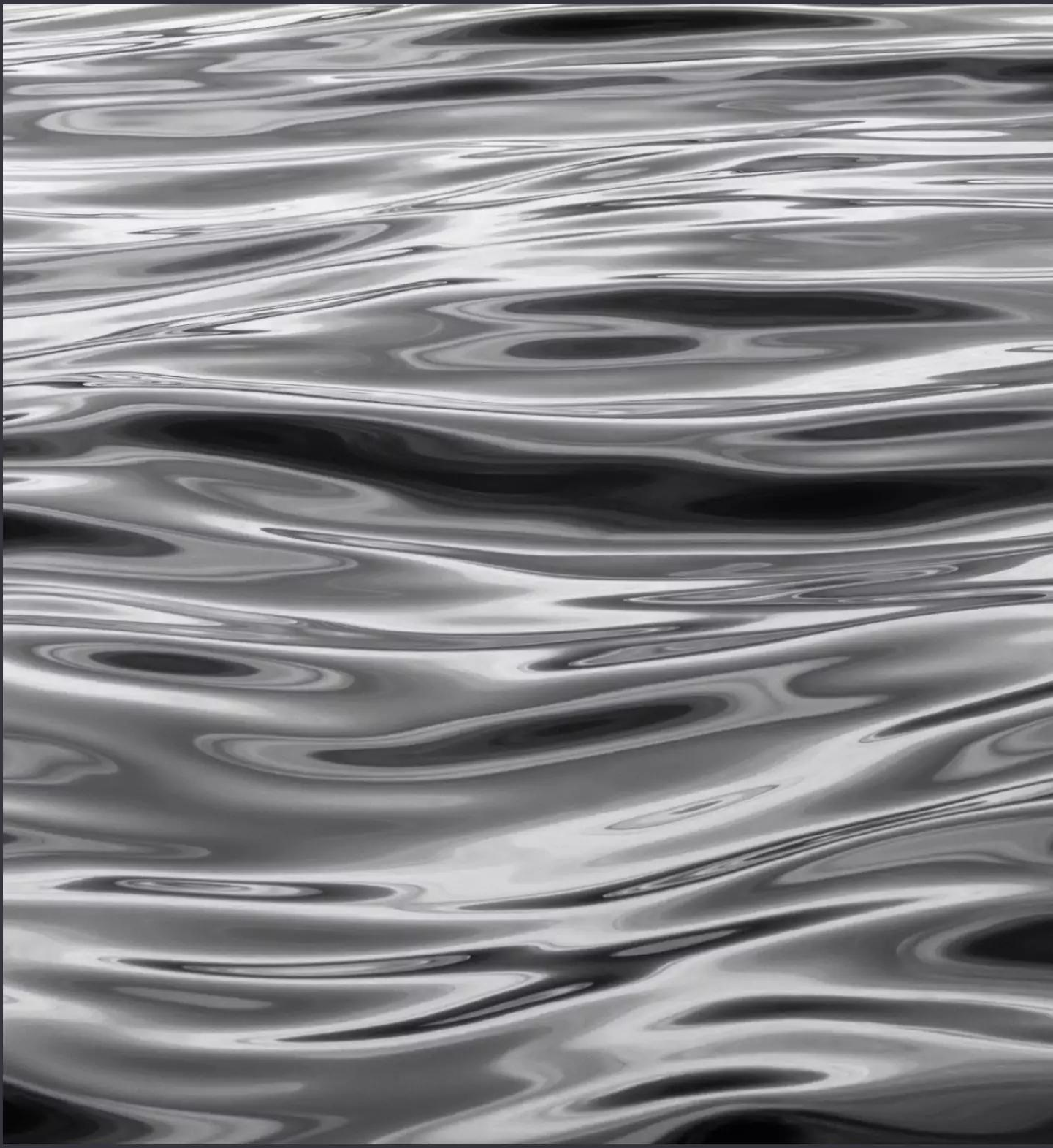


Of course you don't have to restrict yourself to urban locations to find interesting abstract patterns. These decaying groynes (wavebreaks) can be found on the usually deserted stony beach near Porlock in North Devon. Although not strictly speaking an entirely abstract image, the multiple textures, and the contrast between the regular patterns of the wooden structure and the chaotic jumble of the stones on the beach, make a striking and atmospheric image. It was shot in raw mode on a Pentax K-7 DSLR with an 18-55mm f/3.5-5.6 kit lens, and converted to monochrome in Adobe Camera Raw, with the addition of a -1EV graduated filter to darken the sky. 35mm (52mm equiv.), f/5.6, 1/125th, ISO 200.



Nature is a great source of abstract images; any walk in the country can provide you with endless inspiration. In this riverside shot the bright sunlight reflecting on the water throws the reeds into silhouette, creating a simple but strikingly beautiful image. By focusing on the reeds and using a wide aperture and long focal length to restrict depth of field, the bokeh of the water reflections are blurred, isolating the silhouette of the reeds against the background. It was shot on the River Wye in Surrey using a Pentax *ist D camera with a Pentax-DA 55-300mm f4/5.8 ED lens. Shot in black and white in-camera. f/4.5, 1/4000th, ISO 200.

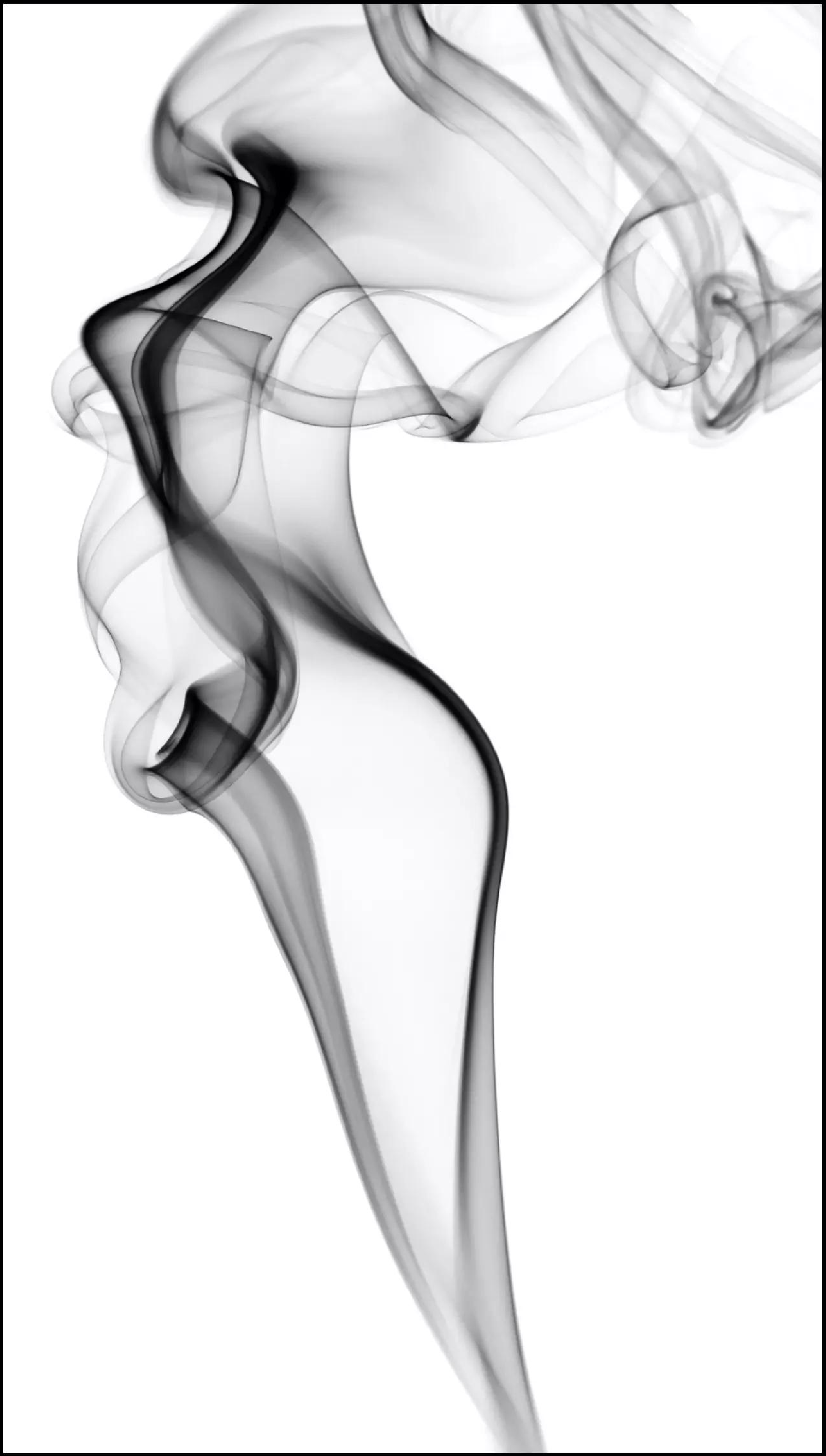


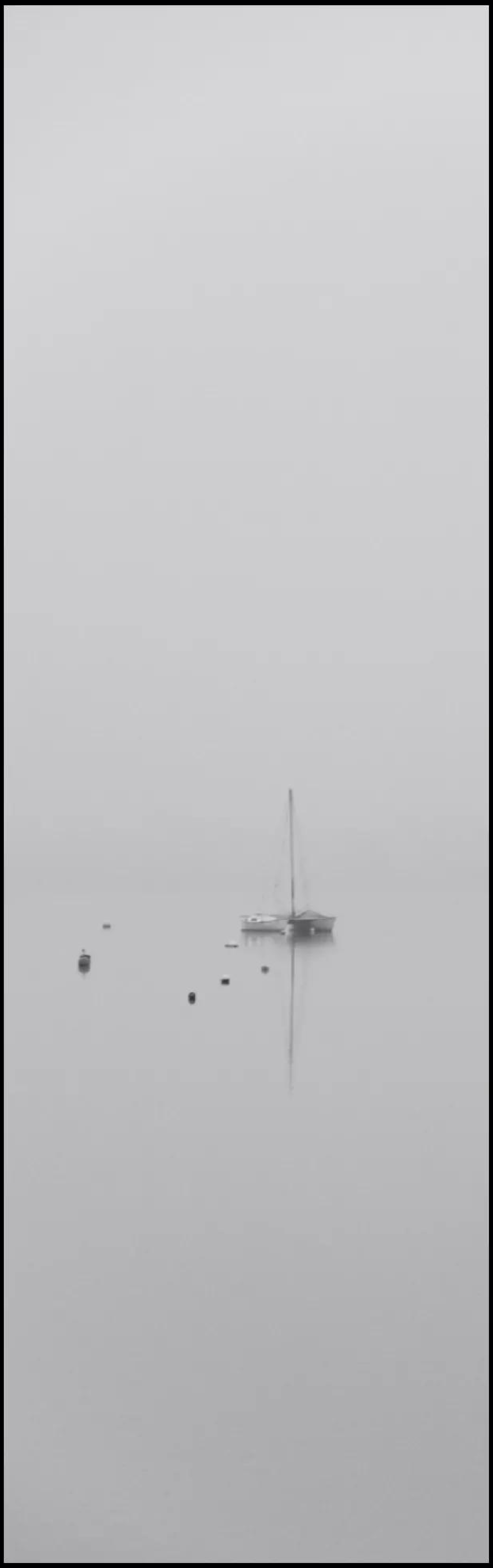


Continuing the theme of reflections in water, this one is more of a pure abstract image. Shot from a boat on the River Exe estuary, it is simply the reflections in the water, given form and texture by the slight swell. Shot in colour but converted to monochrome in Photoshop, with slightly boosted contrast and a red filter, it gives the water an almost oily look, while enhancing the abstract patterns of light and dark. It's a simple shot that anyone could take. Shot on a Pentax K-3 with a SMC DA 18-135mm AL [IF] DC WR lens, f/16, 1,400th, ISO 100.

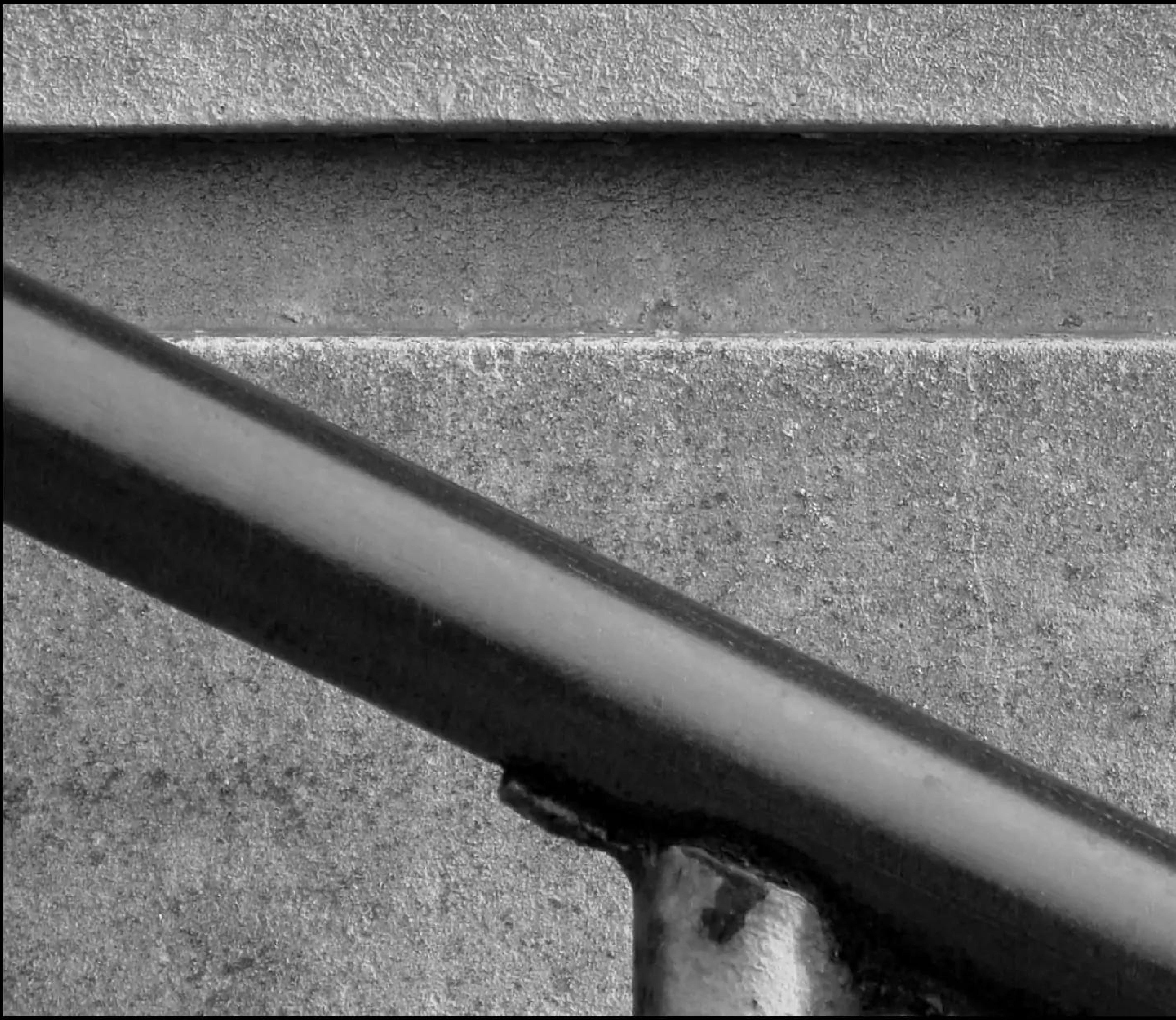
Abstract photography

This purely abstract photograph is surprisingly easy to shoot. It's simply the smoke from a cigarette – although an incense stick would work just as well – shot against a black background. It's lit from the side using an off-camera flashgun, shaded so that none of the light falls on the background. You'll probably need to take a few dozen shots to get one that looks good, so trial and error is the key. Once you've got a shot you like, simply convert to monochrome in Photoshop, and then use Image > Adjustments > Invert to turn it from white on black to black on white. Shot on a Pentax K-3 with a SMC DA 18-135mm AL [IF] DC WR lens, f/11, 1/160th, ISO 100.

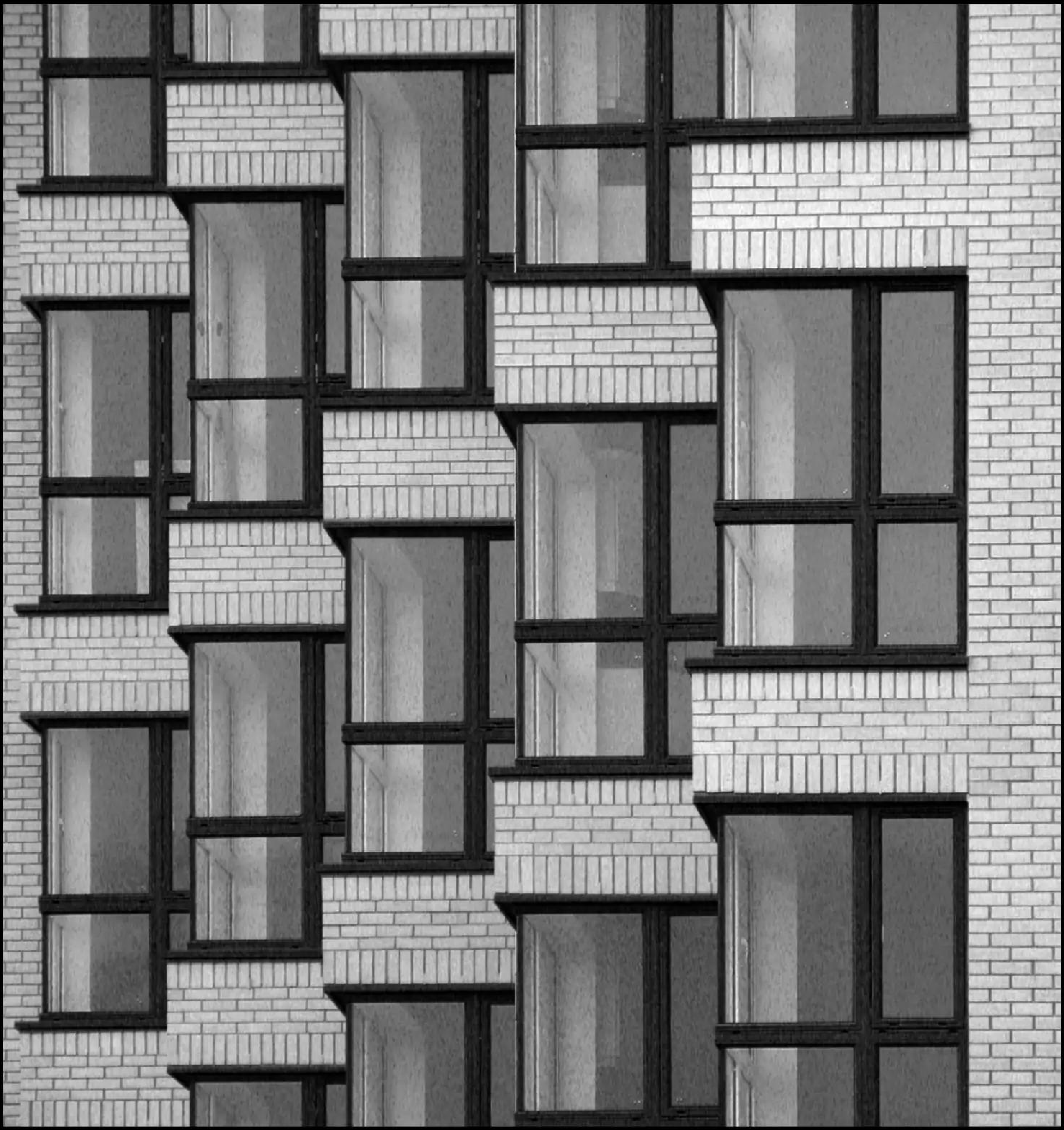




This atmospheric shot looks at first glance like a few abstract shapes on a light grey background, but a second look reveals moored sailing boats shrouded in mist, proof that even a dull and misty day can produce some good pictures. The vertical format emphasises the stillness and quiet isolation of the scene, with the exposure carefully measured so that the far shoreline is just visible as a slightly darker grey line. It was tempting to boost the contrast to increase the tonal range, but doing so would spoil the atmosphere of the shot. Taken on a Pentax K-3 with a SMC DA 18-135mm AL [IF] DC WR lens, f/8, 1/160th, ISO 200.



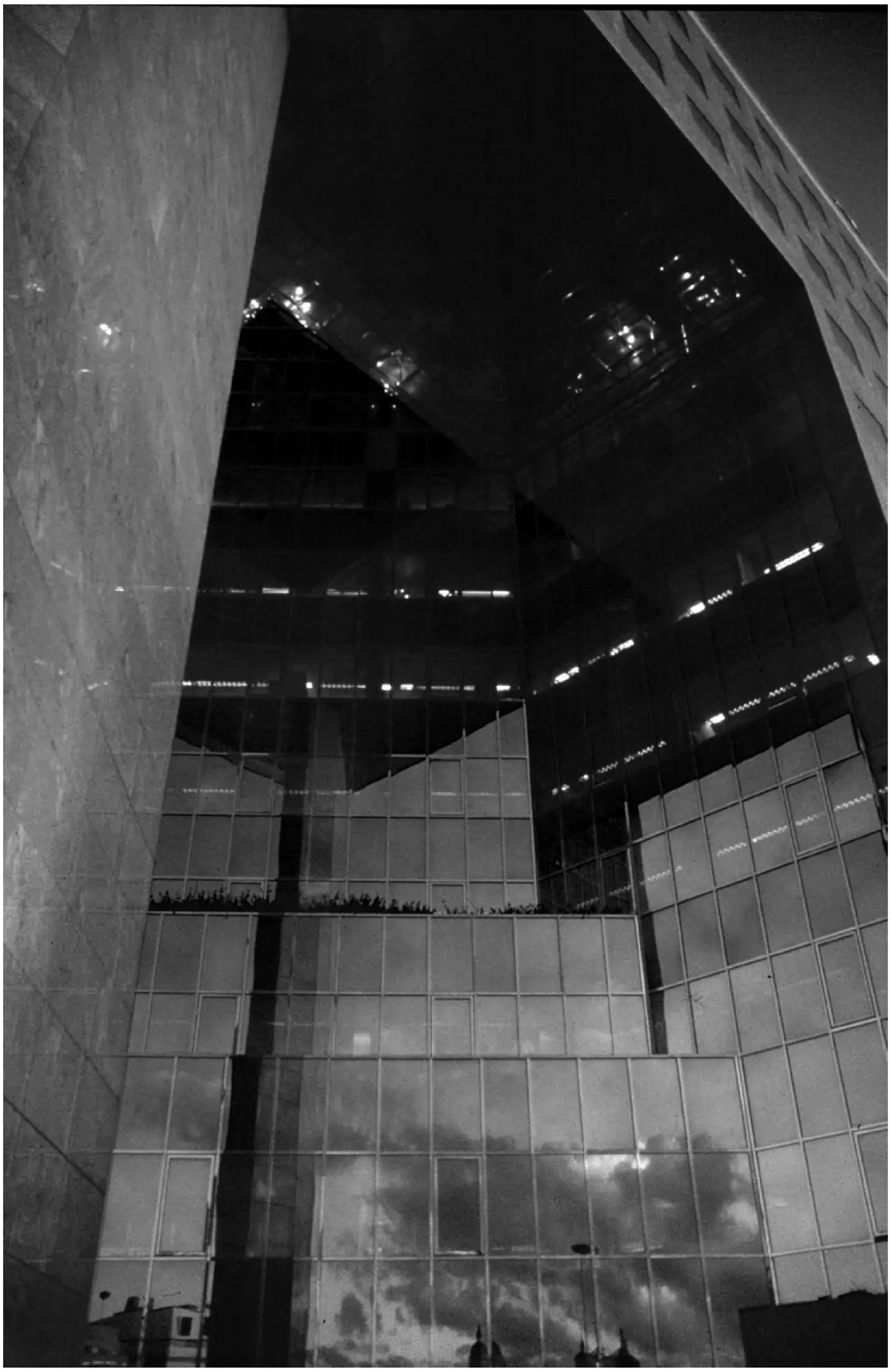
Architectural features can be a great source of abstract images, particularly when you isolate specific details. This shot is a good example; a worn and rusted metal handrail provides a contrast in both texture and shape to the rough concrete of the wall behind it. By using a short telephoto lens at close range to isolate the detail, and a narrow aperture to maximise depth of field, both the rail and the wall are in sharp focus, while the bright overhead sunlight ensures that the texture of the concrete stands out. Careful cropping has improved the simple rule-of-thirds composition. Shot on a Pentax *ist D with a Pentax-DA 55-300mm f4/5.8 ED lens. f/16, 1/125th, ISO 400.

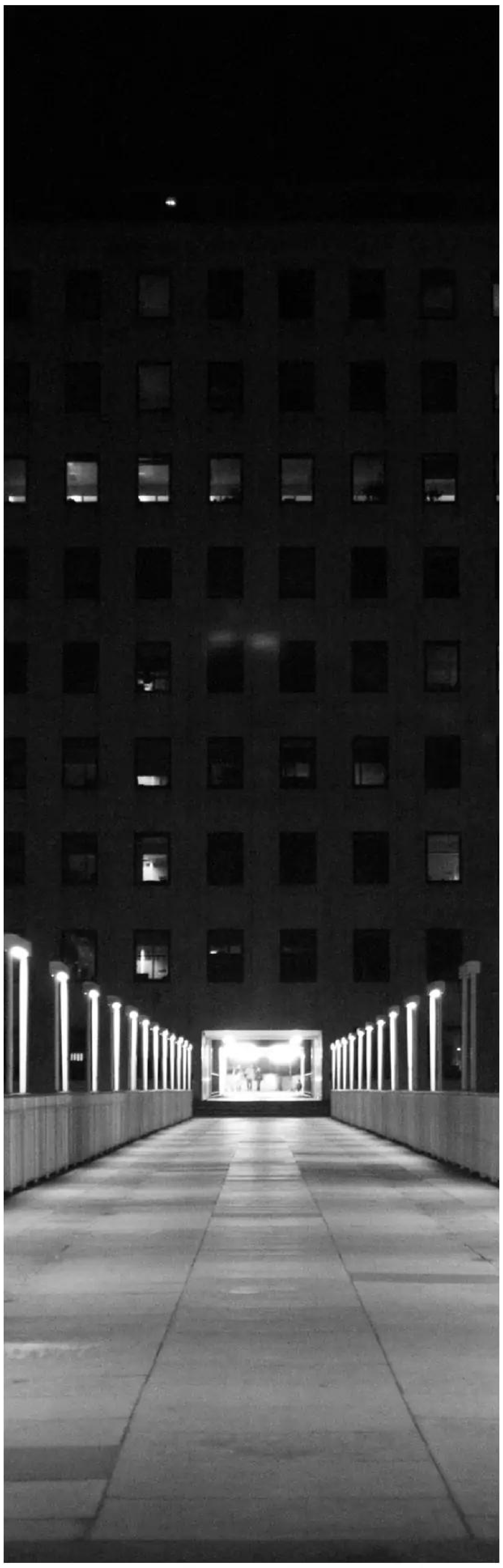


Many architects have been influenced by abstract artists, particularly by the famous grid-based paintings of Piet Mondrian (1872-1944). This is particularly true of modern buildings in large cities, such as this apartment block in London's docklands. By using a long telephoto lens to isolate just a few details of the structure, the abstract Mondrian-like pattern of the window frames is emphasised. This is another example of a good photo from a fairly humble camera, in this case a Nikon Coolpix 5700 super-zoom at an equivalent focal length of nearly 300mm. The colour JPEG image has been converted to monochrome in Photoshop, and the contrast boosted to further emphasise the pattern. f/4.7, 1/180th, ISO 100.

Abstract photography

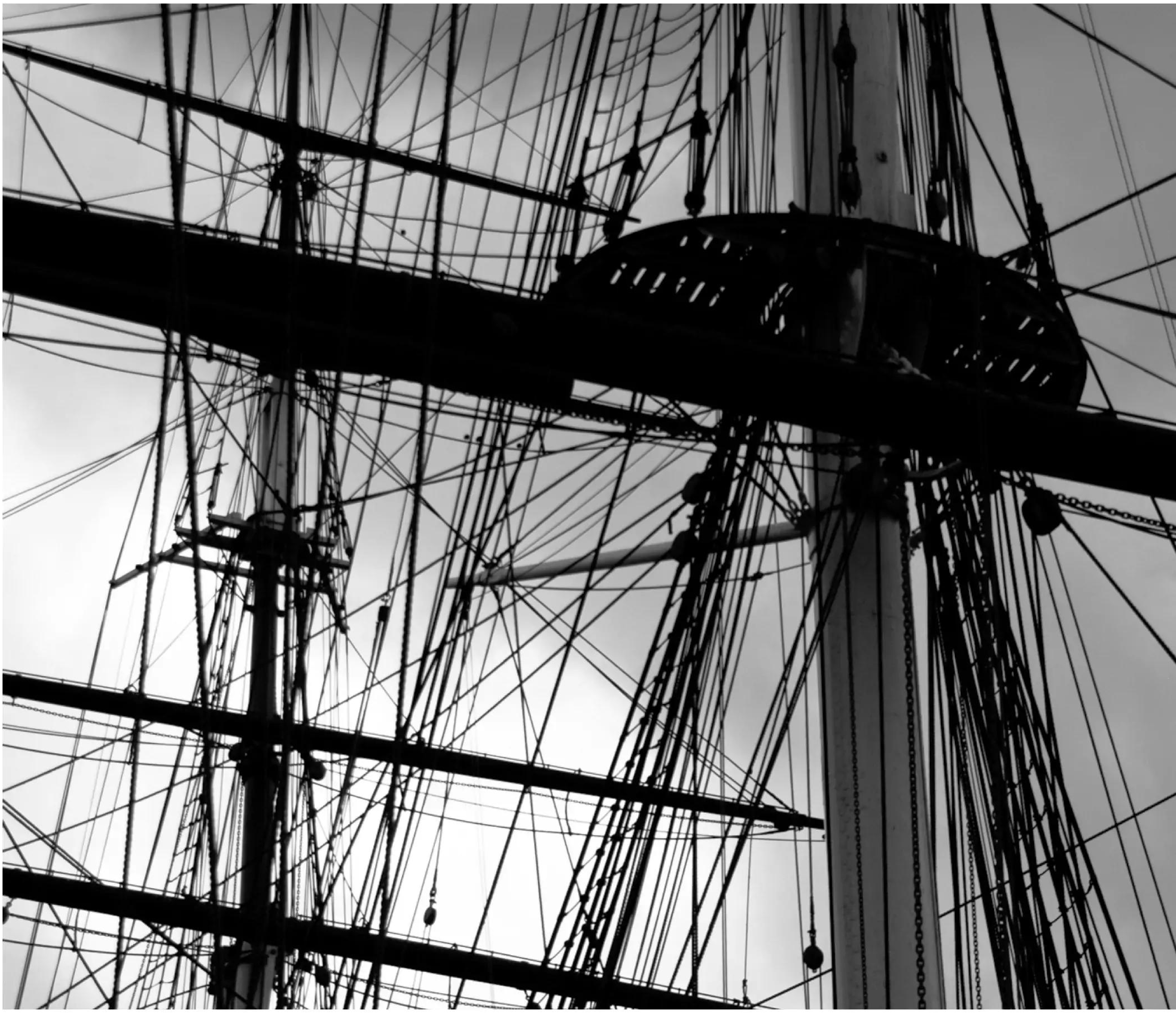
Another architectural abstract, but this time it's the unusual viewpoint and the wide-angle lens that distort reality to create a striking image. It's a well-known central London landmark, 1 London Bridge Court, a distinctive office building on the south side of London Bridge, as seen from the footpath beside the river. The shot was taken in the early evening, just as the office lights were coming on, so it shows the sky reflected in the windows, together with the lights both seen through the glass and reflected in the mirrored panels on the underside of the cut-away area. It was shot on colour transparency film on a Pentax ME Super with a Tokina 28-70mm zoom lens, digitised in a slide scanner and then edited in Photoshop to produce the finished image.

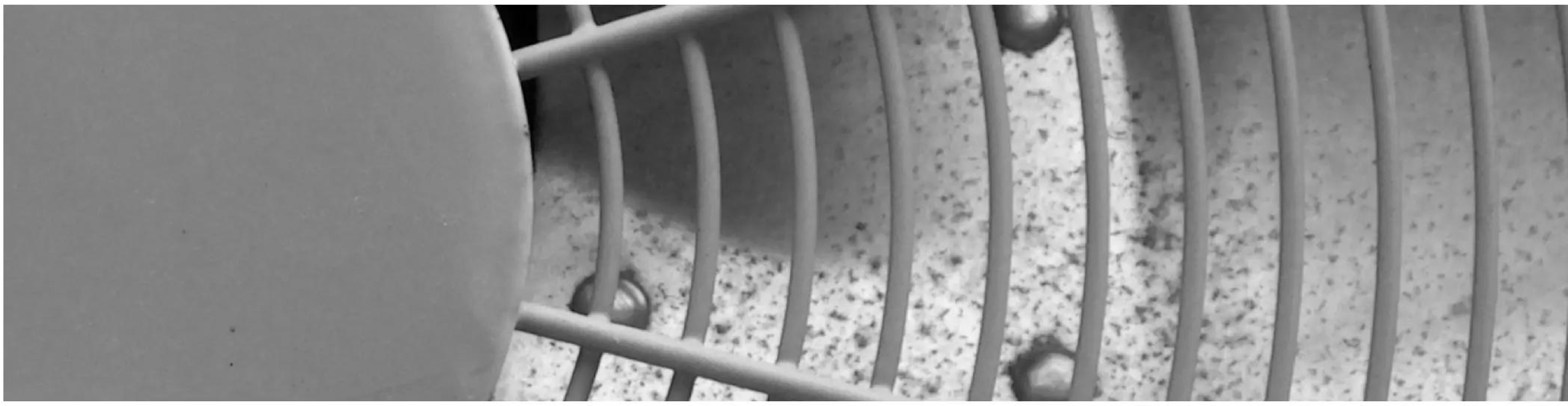




Many large buildings lend themselves well to an artistic photographic interpretation. This is the famous Shell Centre, once described as "the ugliest building in London", but now regarded as a major landmark, and serves as the backdrop to the London Eye. This night-time shot from the walkway connecting the lower floors to Waterloo station emphasises the looming presence of the huge building, with the camera carefully positioned to give a symmetrical view. The exposure was carefully adjusted to ensure that only the windows are visible, hiding the outline of the building. Shot on a Pentax *ist D with a 28-105mm f3.2-4.5 lens at 34mm (50mm equiv), f/3.5, 1/15th, ISO 3200.

When silhouetted against a dark and cloudy sky, this sailing ship's rigging takes on a sinister and claustrophobic atmosphere that seems to tangle the viewer's eye as it tries to make sense of the seemingly impenetrable web of ropes and spars. In fact it's the famous clipper Cutty Sark, a popular tourist attraction located at Greenwich in central London. You can find abstract concepts almost anywhere if you look for them. Shot on a Pentax *ist D with a Pentax-F 28-80mm F3.5-4.5 lens. f/5.6, 1/2000th, ISO 200.





Another example of an arty abstract photo taken on a very humble camera, this shot of the grille of an air conditioning fan was taken in 2002 on an extremely basic 4-megapixel HP PhotoSmart C812 compact. Converted to monochrome and carefully cropped in Photoshop, it's not particularly glamourous or technically impressive, but the simple flat composition of the prosaic and anonymous subject matter does seem to work. Art is what you make it; abstract art doubly so. I should send that in to the Reader's Digest. f/4.8, 1/200th, ISO 100.

CONVERTING TO BLACK AND WHITE

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AFTER

Mono conversion techniques

SOME ESSENTIAL GUIDES TO CONVERTING YOUR WORK TO BLACK AND WHITE

There's a lot more to the process of converting a colour picture to monochrome than simply removing the colour. Photographers shooting on black and white film will use coloured filters to produce certain effects in the finished photo; a yellow or orange filter will darken a blue sky, while a green filter will brighten trees and grass.

When editing digital images, since colour is present in the original image some conversion methods allow you to apply similar filtering effects during the conversion process to change the tone of objects in the image. By changing the filter settings you can make clouds stand out against a dark sky, highlight trees and foliage, or change the relative contrast of objects in the composition. Let's take a look at some of the most popular monochrome conversion techniques, and see why some are more useful than others for creative photo editing. ■

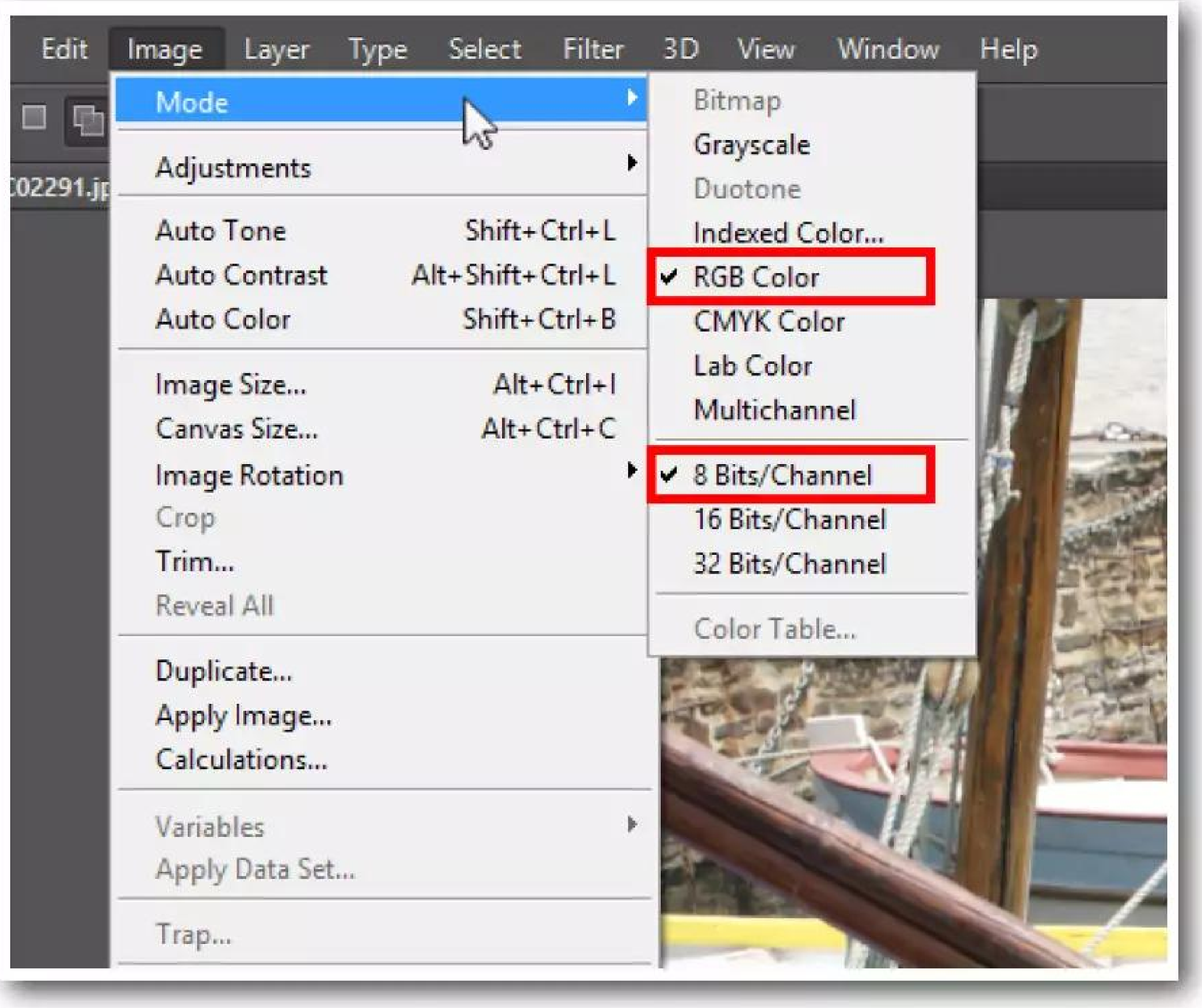
> "There's a lot more to the process of converting a colour picture to monochrome than simply removing the colour."

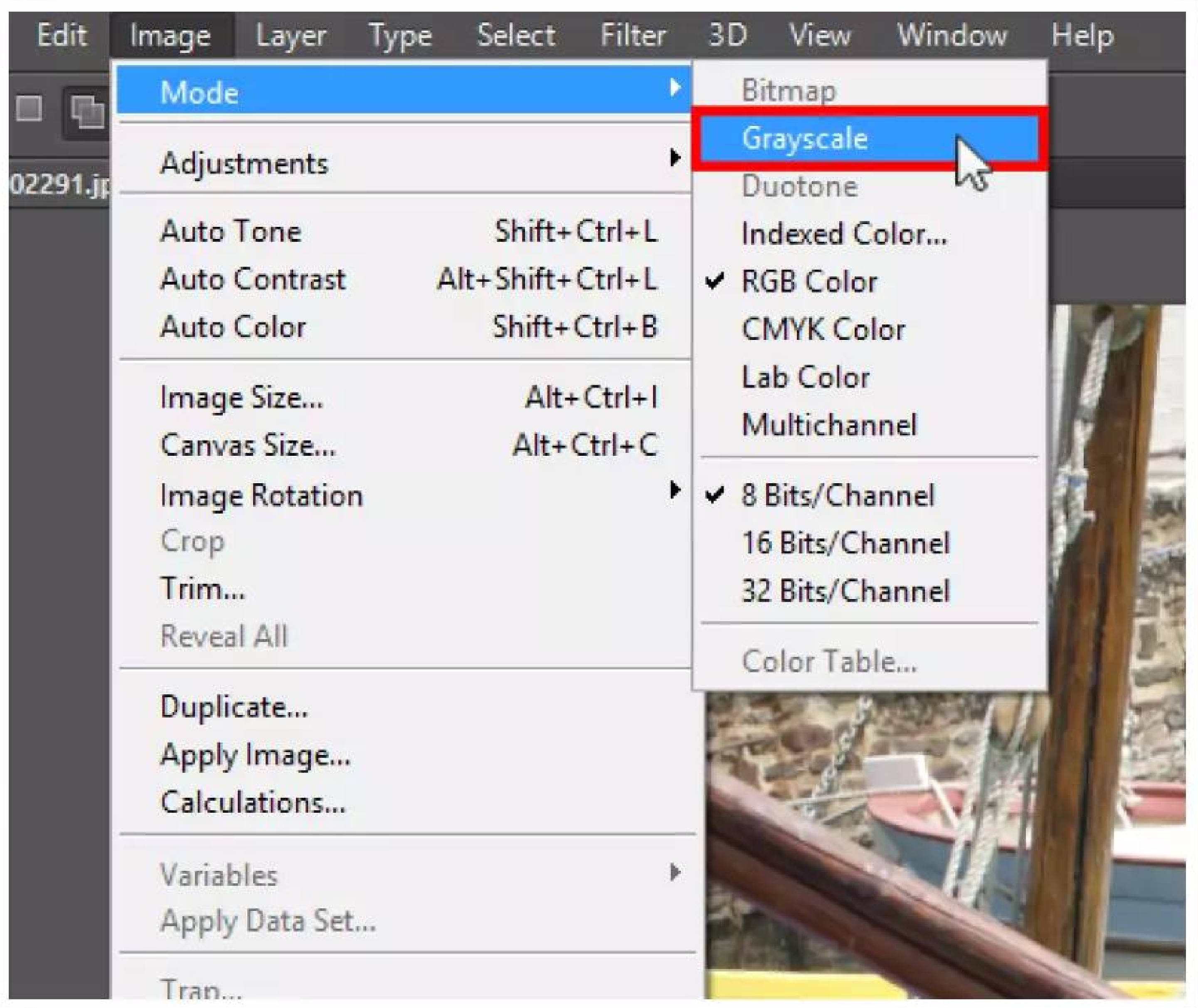
PHOTOSHOP

Mono conversion techniques

1 Converting to Greyscale

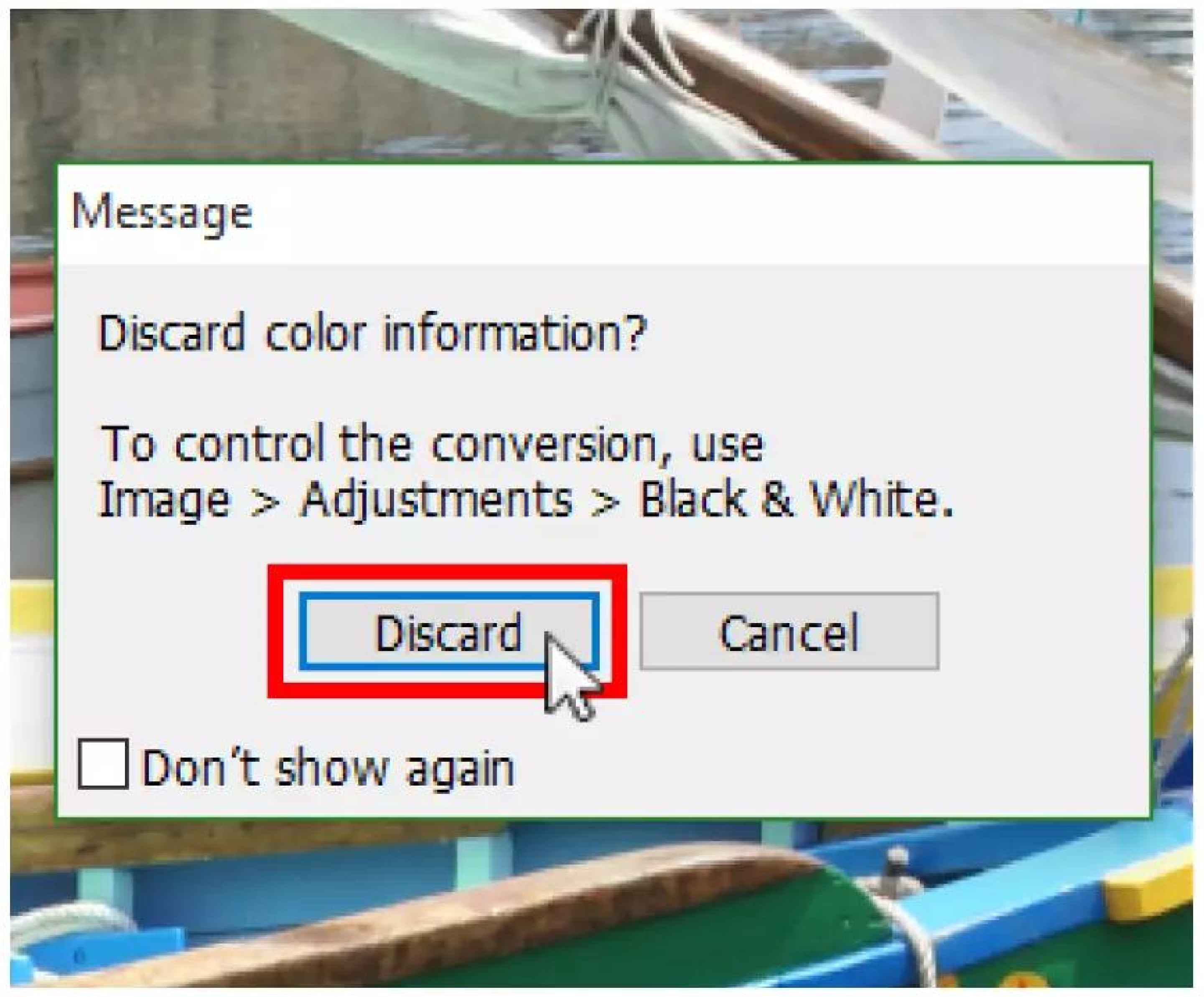
A greyscale image is simply one with all the colour information removed. It has its uses, but the results are limited.


Edit
Image
Layer
Type
Select
Filter
3D
View
Window
Help
Mode
Adjustments
Auto Tone Shift+Ctrl+L
Auto Contrast Alt+Shift+Ctrl+L
Auto Color Shift+Ctrl+B
Image Size... Alt+Ctrl+I
Canvas Size... Alt+Ctrl+C
Image Rotation
Crop
Trim...
Reveal All
Duplicate...
Apply Image...
Calculations...
Variables
Apply Data Set...
Trap...
Bitmap
Grayscale
Duotone
Indexed Color...
✓ RGB Color
CMYK Color
Lab Color
Multichannel
✓ 8 Bits/Channel
16 Bits/Channel
32 Bits/Channel
Color Table...


Edit
Image
Layer
Type
Select
Filter
3D
View
Window
Help
Mode
Adjustments
Auto Tone Shift+Ctrl+L
Auto Contrast Alt+Shift+Ctrl+L
Auto Color Shift+Ctrl+B
Image Size... Alt+Ctrl+I
Canvas Size... Alt+Ctrl+C
Image Rotation
Crop
Trim...
Reveal All
Duplicate...
Apply Image...
Calculations...
Variables
Apply Data Set...
Trap...
Bitmap
Grayscale
Duotone
Indexed Color...
✓ RGB Color
CMYK Color
Lab Color
Multichannel
✓ 8 Bits/Channel
16 Bits/Channel
32 Bits/Channel
Color Table...

01 Open the colour image that you want to convert. Click on the Image menu, and hold your mouse over Mode. If it's a normal JPEG image shot on a digital camera you should see that "RGB Color" and "8 Bits/Channel" are both ticked in the sub-menu.

02 To convert the image to greyscale, simply click on the "Grayscale" menu option. This will remove all the colour information from the data describing each pixel of the image, but it doesn't allow any control over the process.



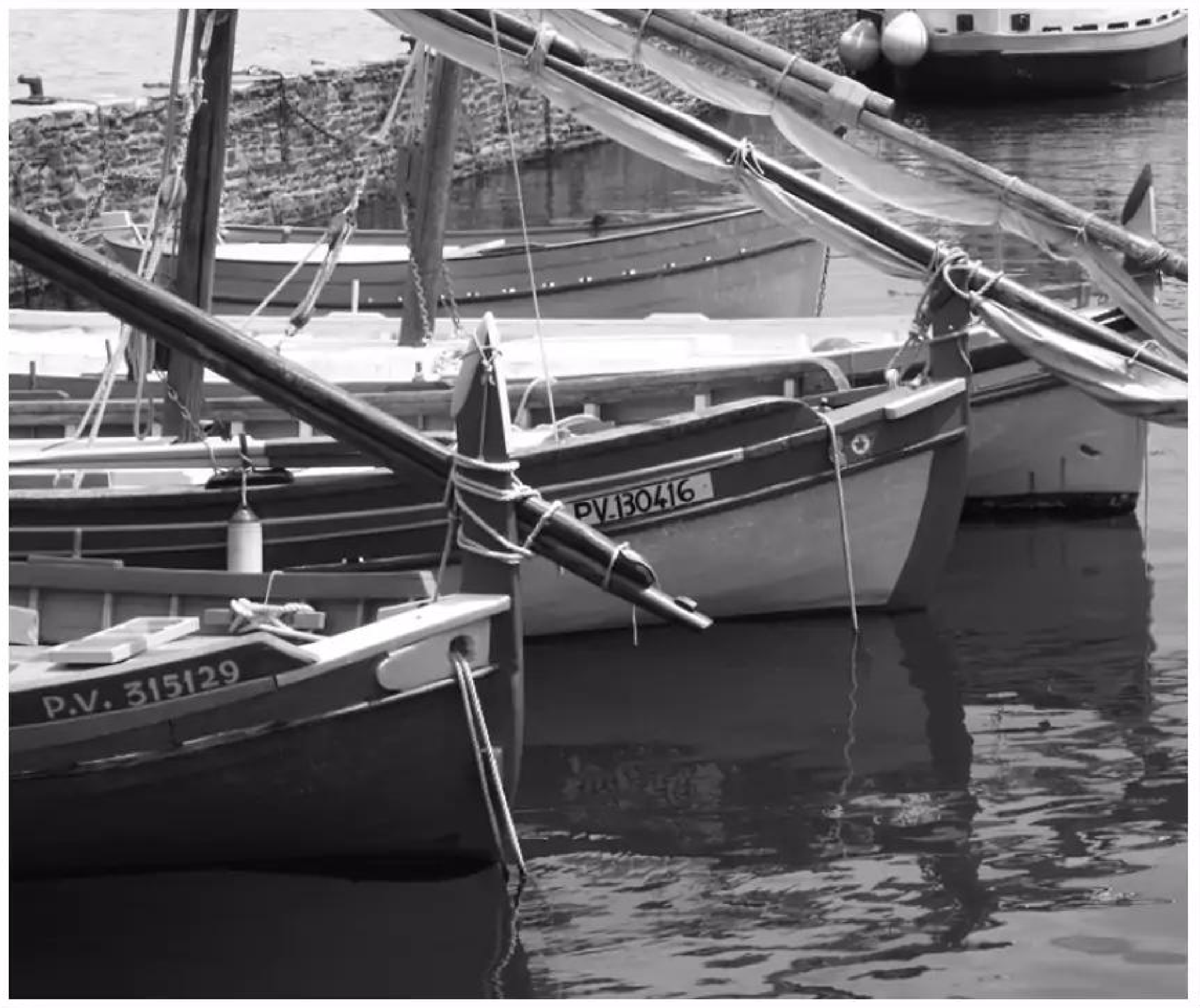
Message

Discard color information?

To control the conversion, use Image > Adjustments > Black & White.

Discard Cancel

☐ Don't show again



03 You'll see a confirmation window asking if you're sure you want to discard the colour information, and advising you to use a different technique if you want to control the conversion. Click on Discard.

04 The resulting image is black and white; but, as you can see, the image is very flat and lifeless with a completely linear tonal range. Greyscale images like this are used as the starting point for Duotone conversions, but aren't much use otherwise.

Silver Efex Pro 2
GLOBAL ADJUSTMENTS
Brightness
Highlights
Midtones
Shadows
Dynamic Brightness
Contrast
Amplify Whites
Preset: Default
Reds:
Yellows:
Greens:
Cyans:
Blues:
Magentas:
Adjustments Styles
Black & White
Layers Channels Paths
Kind
Normal
Opacity:
PV130416
515129

2

Desaturation

Desaturation is the process of reducing the colour saturation to zero. There are several ways to desaturate your image, but the results will be the same.

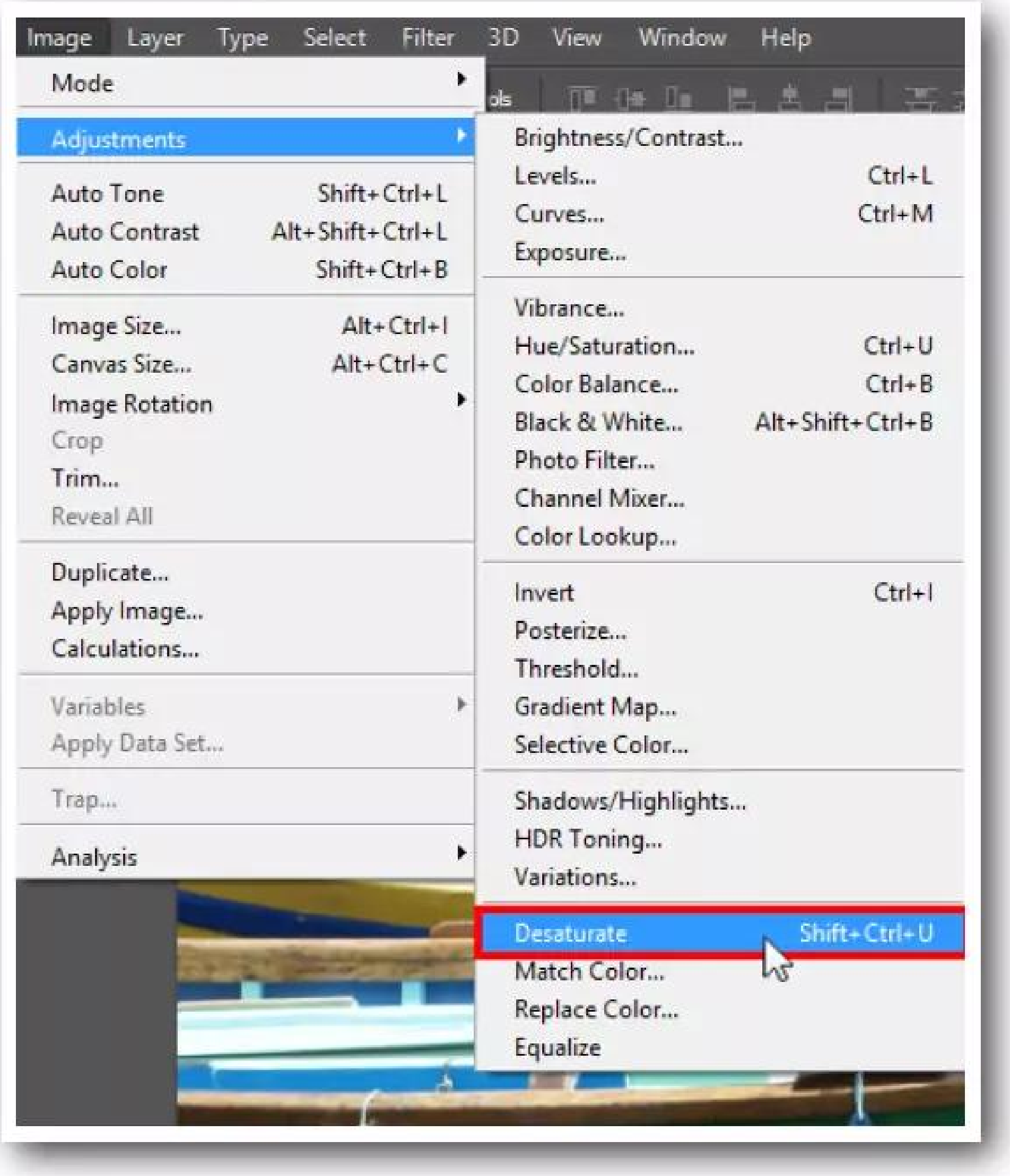


Image Layer Type Select Filter 3D View Window Help
Mode
Adjustments
Auto Tone Shift+Ctrl+L
Auto Contrast Alt+Shift+Ctrl+L
Auto Color Shift+Ctrl+B
Image Size... Alt+Ctrl+I
Canvas Size... Alt+Ctrl+C
Image Rotation
Crop
Trim...
Reveal All
Duplicate...
Apply Image...
Calculations...
Variables
Apply Data Set...
Trap...
Analysis
Brightness/Contrast...
Levels... Ctrl+L
Curves... Ctrl+M
Exposure...
Vibrance...
Hue/Saturation... Ctrl+U
Color Balance... Ctrl+B
Black & White... Alt+Shift+Ctrl+B
Photo Filter...
Channel Mixer...
Color Lookup...
Invert Ctrl+I
Posterize...
Threshold...
Gradient Map...
Selective Color...
Shadows/Highlights...
HDR Toning...
Variations...
Desaturate Shift+Ctrl+U
Match Color...
Replace Color...
Equalize

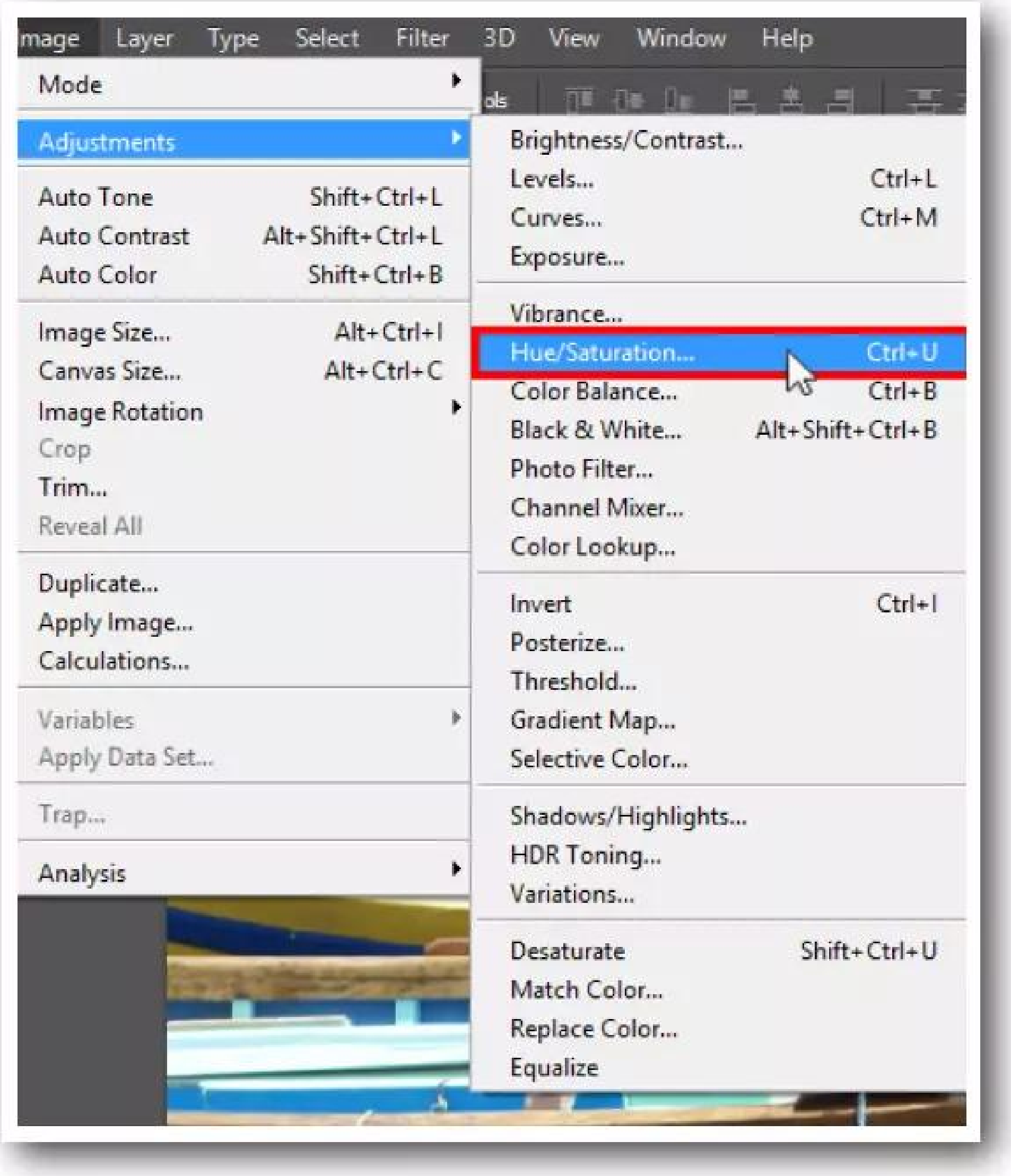
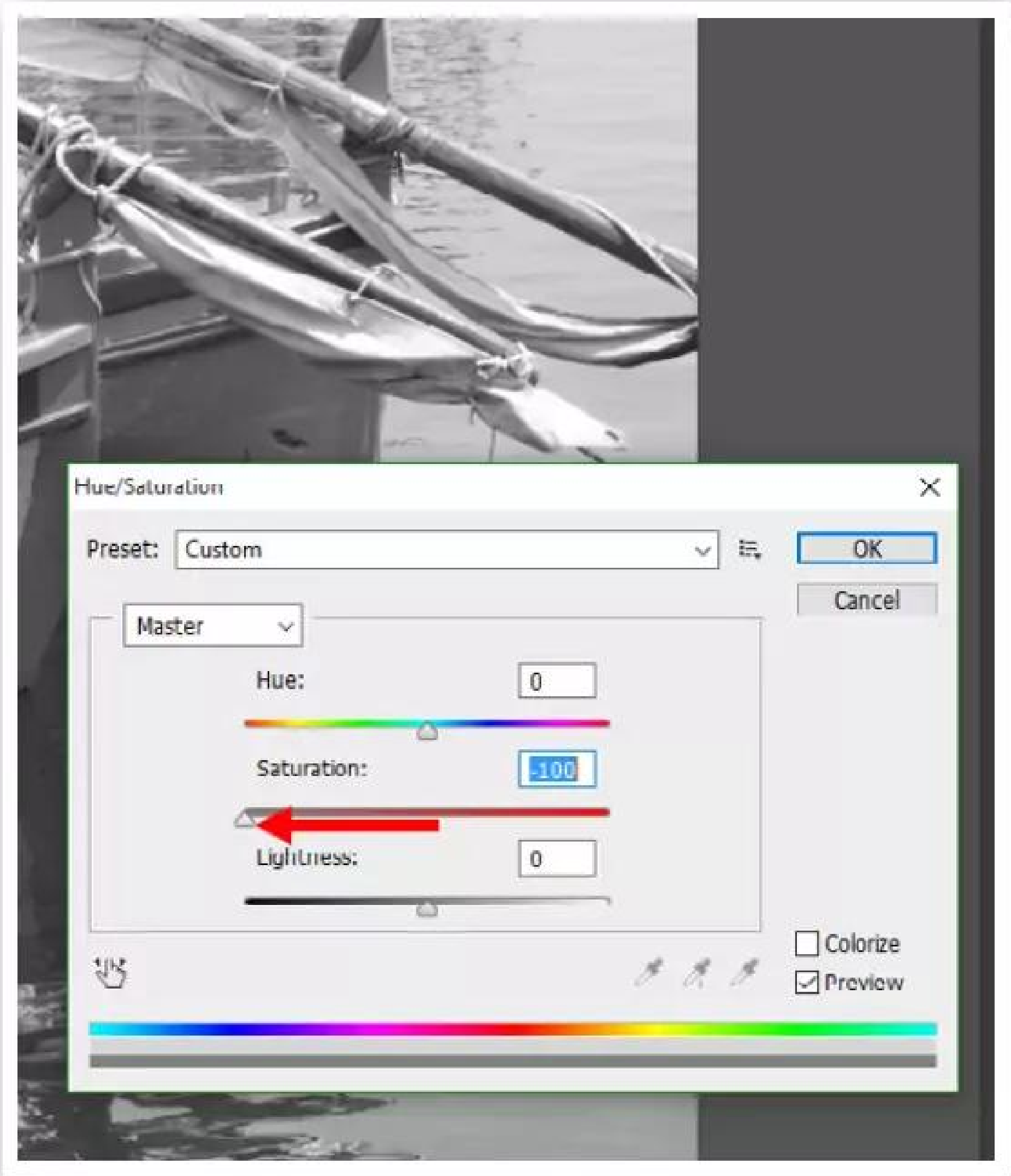


Image Layer Type Select Filter 3D View Window Help
Mode
Adjustments
Auto Tone Shift+Ctrl+L
Auto Contrast Alt+Shift+Ctrl+L
Auto Color Shift+Ctrl+B
Image Size... Alt+Ctrl+I
Canvas Size... Alt+Ctrl+C
Image Rotation
Crop
Trim...
Reveal All
Duplicate...
Apply Image...
Calculations...
Variables
Apply Data Set...
Trap...
Analysis
Brightness/Contrast...
Levels... Ctrl+L
Curves... Ctrl+M
Exposure...
Vibrance...
Hue/Saturation... Ctrl+U
Color Balance... Ctrl+B
Black & White... Alt+Shift+Ctrl+B
Photo Filter...
Channel Mixer...
Color Lookup...
Invert Ctrl+I
Posterize...
Threshold...
Gradient Map...
Selective Color...
Shadows/Highlights...
HDR Toning...
Variations...
Desaturate Shift+Ctrl+U
Match Color...
Replace Color...
Equalize

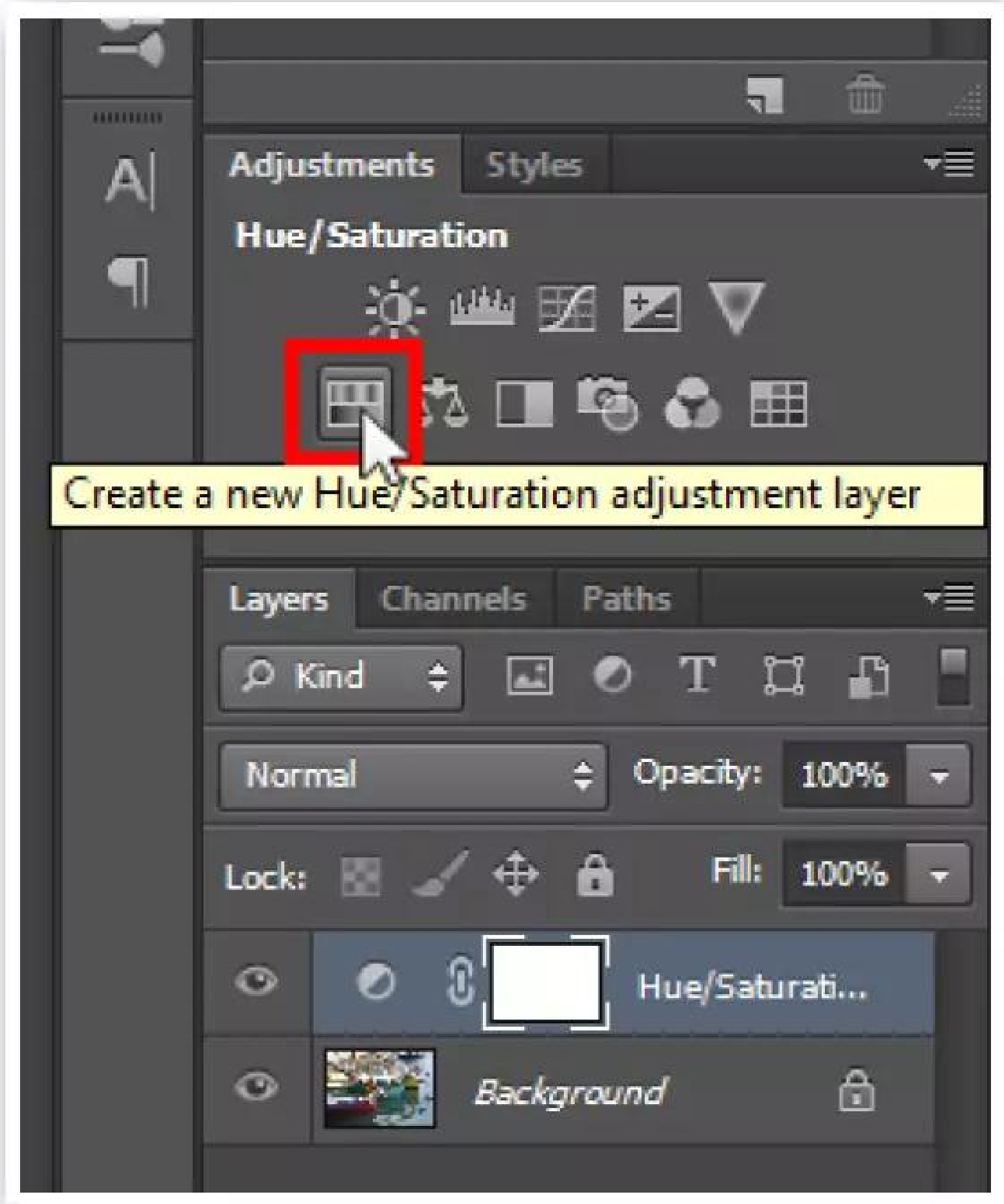

Hue/Saturation
OK
Cancel
Colorize
Preview

Preset: Custom
Master
Hue: 0
Saturation: -100
Lightness: 0
☐ Colorize
☑ Preview

01 The quickest way to desaturate your image is to use the "Desaturate" menu option, which you'll find in the Image > Adjustments menu. This instantly reduces the colour saturation of the image to zero.

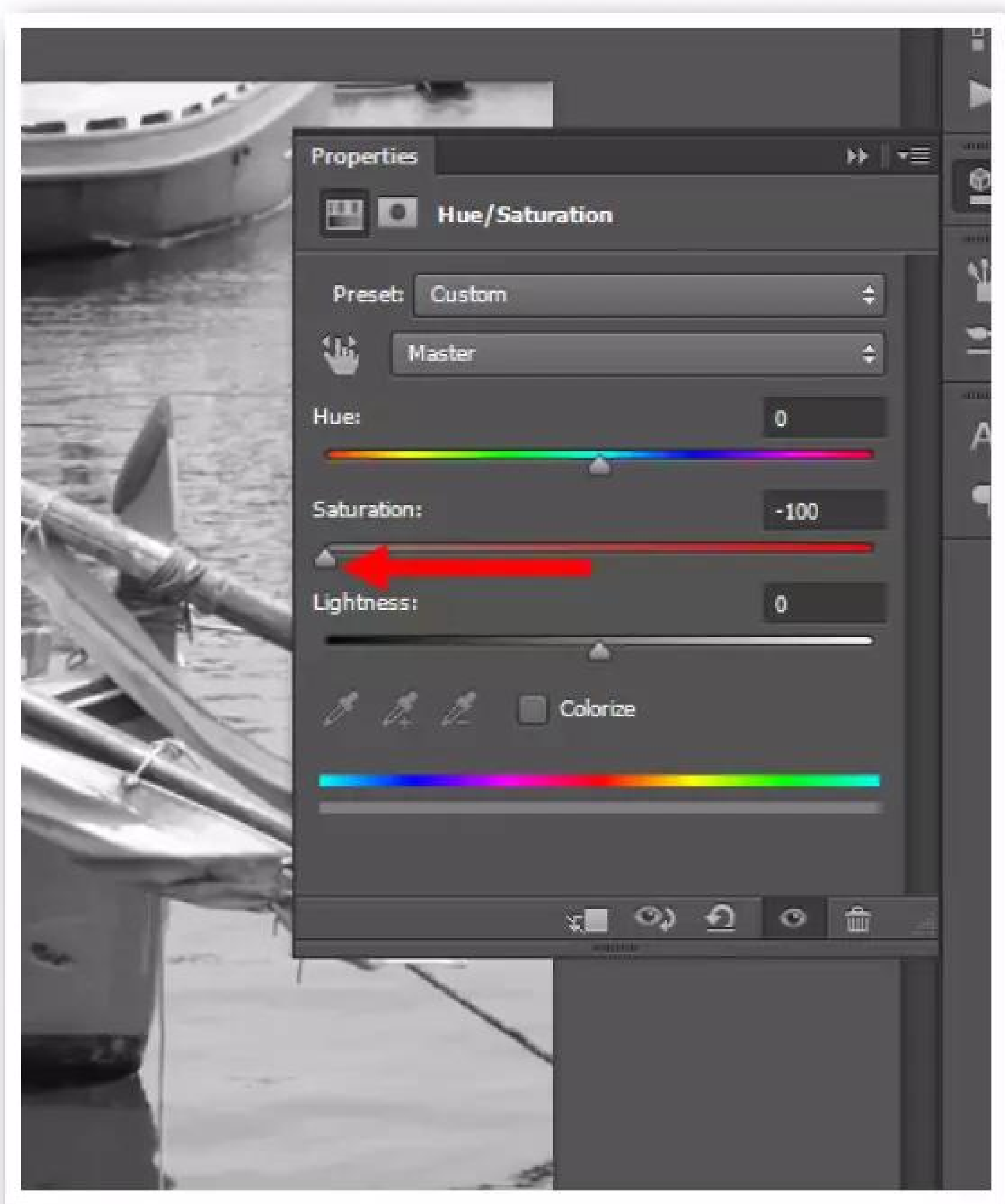
02 Another slightly more complicated way to desaturate your image (but one which will work in other photo editors than Photoshop) is to use the Hue/Saturation control, which you'll also find in the Image > Adjustments menu.

03 In the control window that opens, you'll see three slider controls for hue, saturation and lightness. Slide the middle one (saturation) all the way to the left. This produces exactly the same effect as the Desaturate menu option.

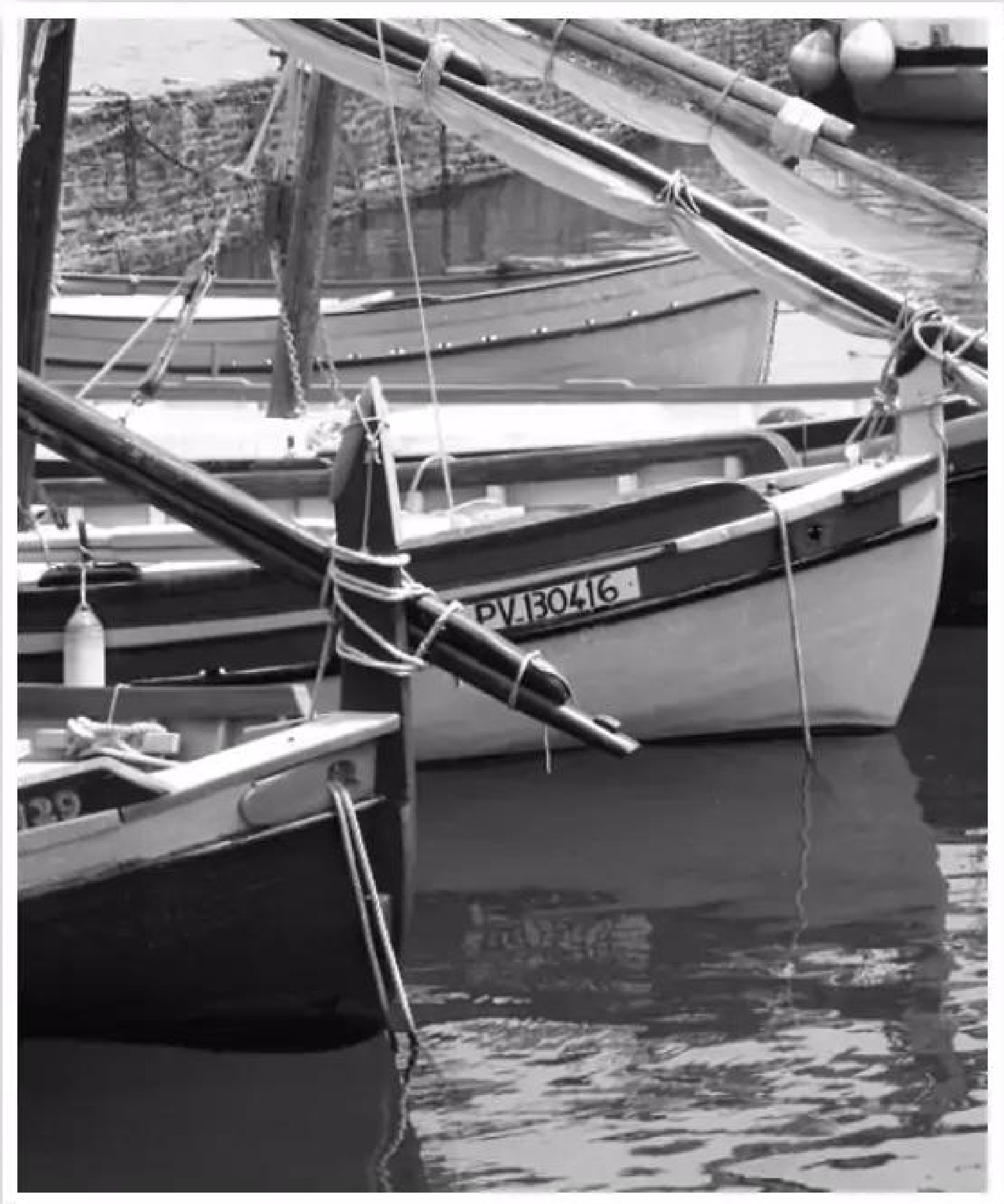

Adjustments Styles
Hue/Saturation
Layers Channels Paths
Kind
Lock:
Hue/Saturati...
Background

Create a new Hue/Saturation adjustment layer

Normal
Opacity: 100%
Fill: 100%


Properties
Hue/Saturation
Colorize

Preset: Custom
Master
Hue: 0
Saturation: -100
Lightness: 0



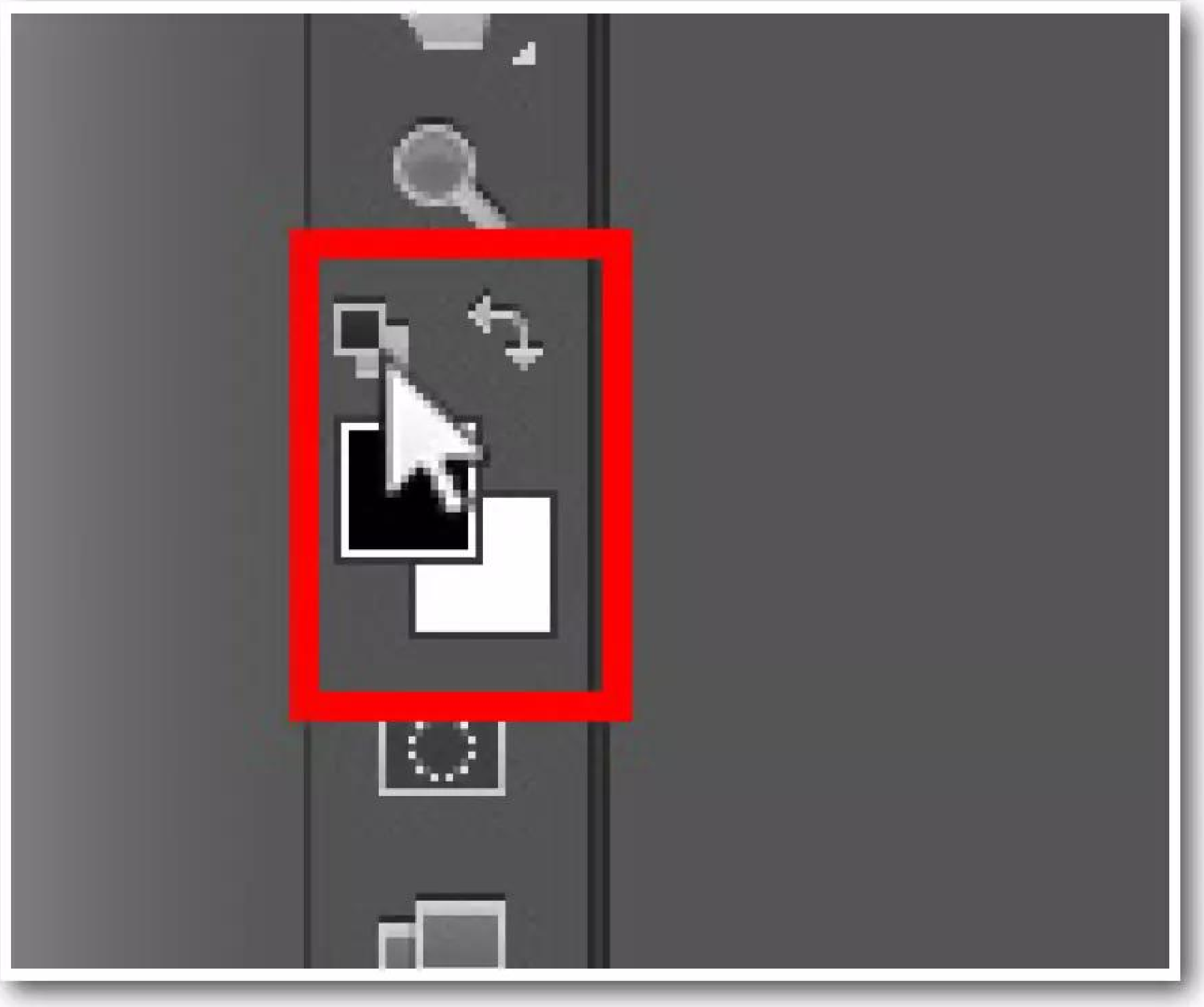
04 The main problem with the previous two methods is that they are permanent, so you'll need to work on a copy of your picture if you want to preserve the original. To desaturate your image non-destructively, you could use a Hue/Saturation adjustment layer.

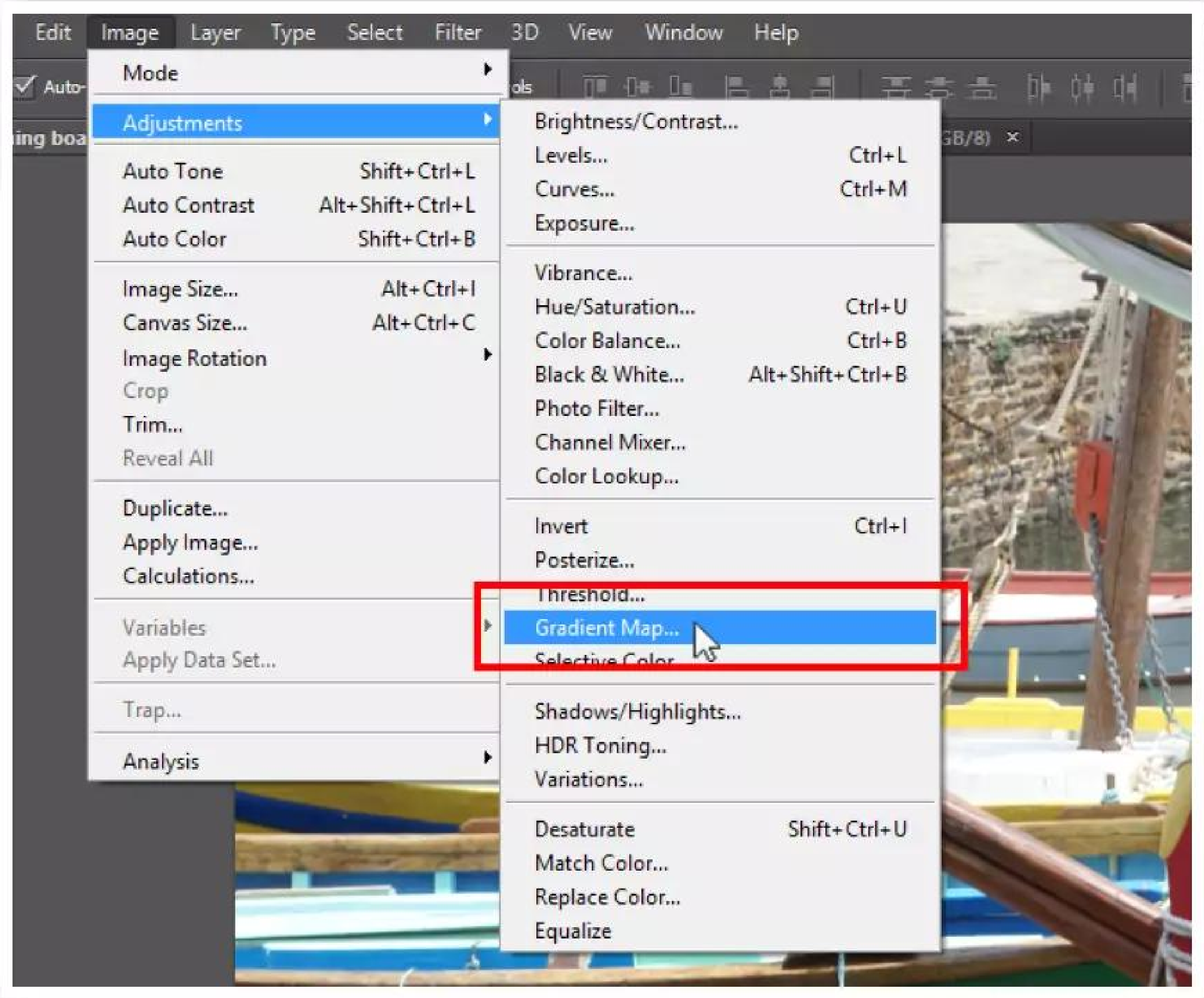
05 The adjustment layer works in the same way as the Hue/Saturation/Lightness menu option. To desaturate your image, move the saturation slider (the middle one) all the way to the left, leaving the other two in their default positions.

06 The result you'll get from desaturation differs slightly from the greyscale mode change on the previous page. It has even less contrast and appears a little lighter, but it does have more detail in the shadows and highlights. It's still rather flat and lifeless though.

3 Gradient Map

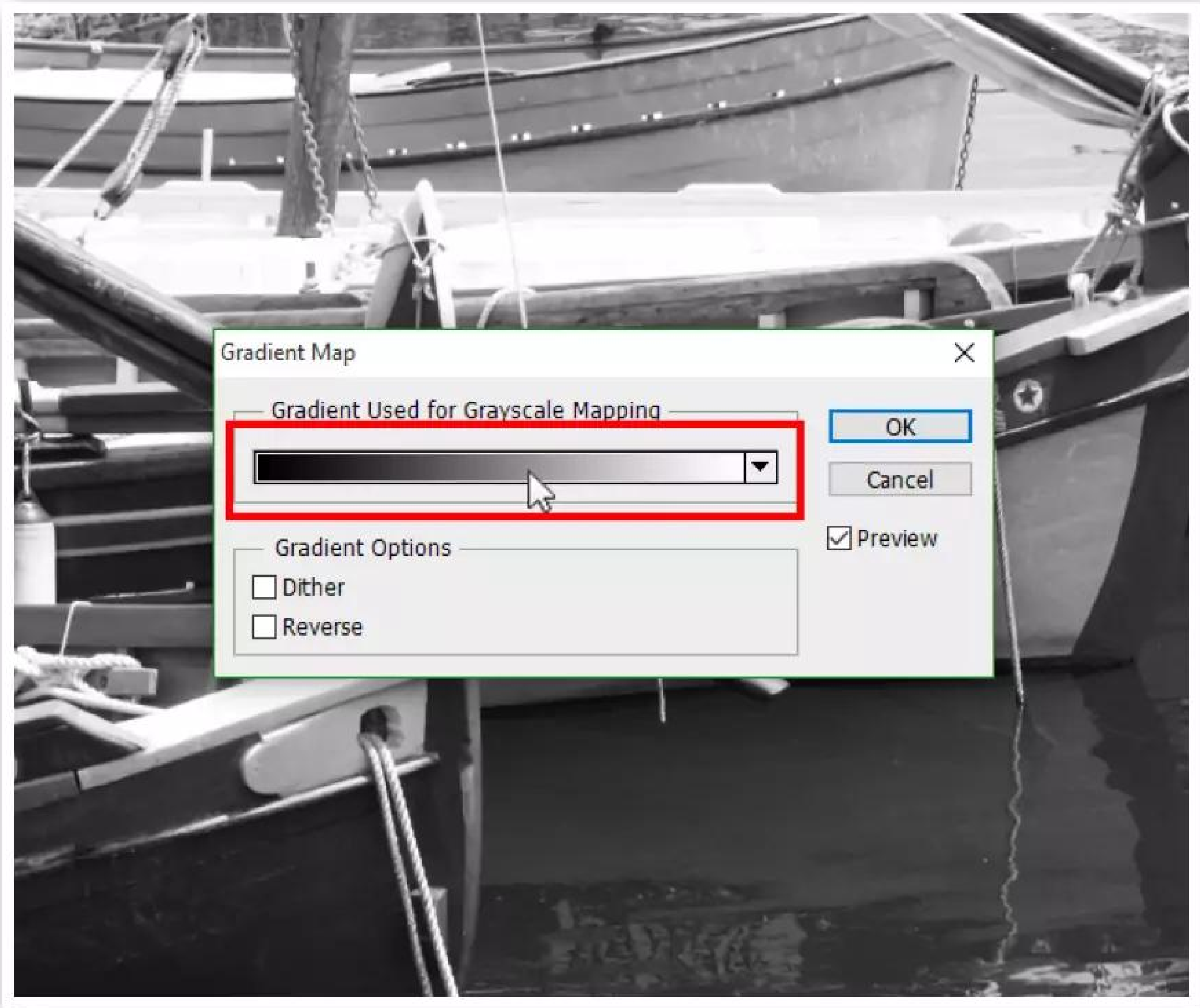
The Gradient Map option re-maps the pixels in your image to new colours from a pre-set gradient between the currently selected background and foreground colours, relative to the brightness value of the pixels.

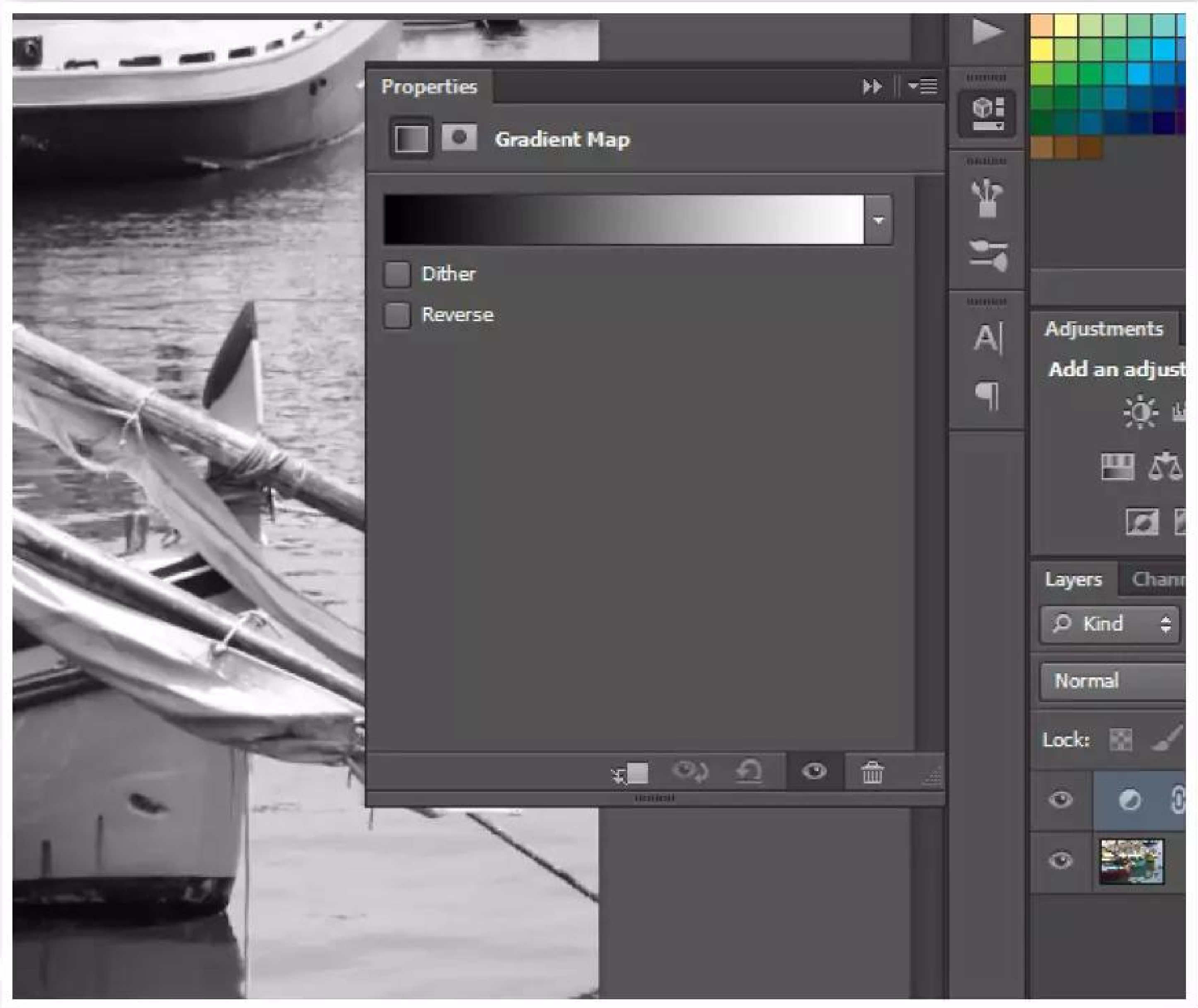



Edit
Image
Layer
Type
Select
Filter
3D
View
Window
Help
Mode
Adjustments
Auto Tone Shift+Ctrl+L
Auto Contrast Alt+Shift+Ctrl+L
Auto Color Shift+Ctrl+B
Image Size... Alt+Ctrl+I
Canvas Size... Alt+Ctrl+C
Image Rotation
Crop
Trim...
Reveal All
Duplicate...
Apply Image...
Calculations...
Variables
Apply Data Set...
Trap...
Analysis
Brightness/Contrast...
Levels... Ctrl+L
Curves... Ctrl+M
Exposure...
Vibrance...
Hue/Saturation... Ctrl+U
Color Balance... Ctrl+B
Black & White... Alt+Shift+Ctrl+B
Photo Filter...
Channel Mixer...
Color Lookup...
Invert Ctrl+I
Posterize...
Threshold...
Gradient Map...
Selective Color...
Shadows/Highlights...
HDR Toning...
Variations...
Desaturate Shift+Ctrl+U
Match Color...
Replace Color...
Equalize

01 By default, the background and foreground colours are black and white respectively. If you have them set to any other colours, you can restore them to the default settings by clicking on the small icon above and left of the colour picker.

02 You'll find the Gradient Map option in the Image > Adjustments menu. Open the menu and click on it to start the gradient mapping process. The default gradient map conversion looks very much like the result of setting the mode to greyscale.


Gradient Map
Gradient Used for Grayscale Mapping
OK
Cancel
Preview
Gradient Options
Dither
Reverse


Properties
Gradient Map
Dither
Reverse
Adjustments
Add an adjust
Layers
Chan
Kind
Normal
Lock:

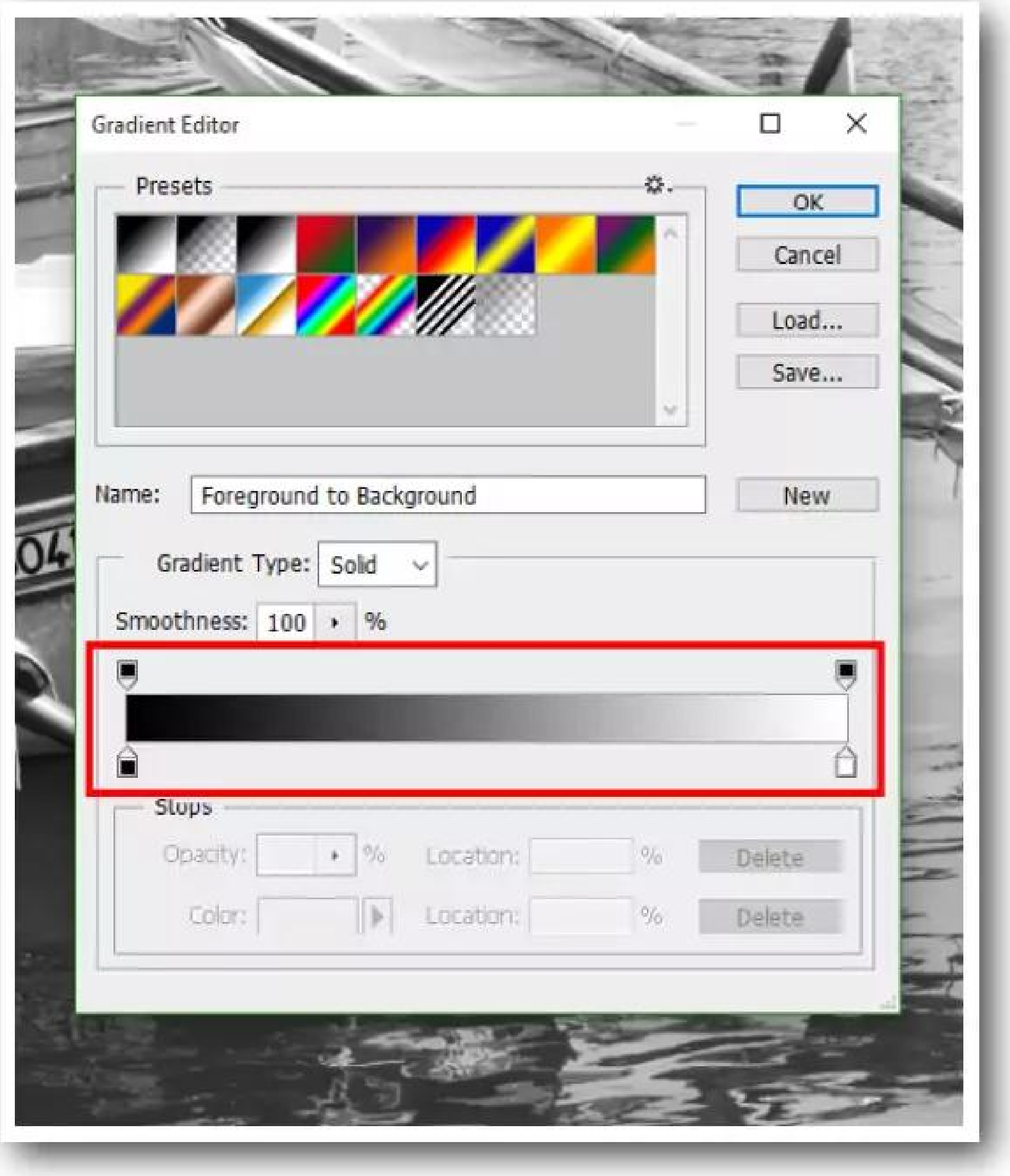
03 The advantage of converting by gradient mapping is that it gives some degree of control over the appearance of the finished product. You can edit the gradient map by clicking on the gradient bar in the middle of the screen.

04 Alternatively, if you have Photoshop CS4 or later and want to edit non-destructively, you can get the same effect by using a Gradient Map adjustment layer. You'll find the button for this on the bottom-right of the adjustment layer panel on the right of the screen.

Silver Efex Pro 2
GLOBAL ADJUSTMENTS
Brightness
Highlights
Midtones
Shadows
Dynamic Brightness
Contrast
Amplify Whites
Preset: Default
Reds:
Yellows:
Greens:
Cyans:
Blues:
Magentas:
Adjustments
Styles
Black & White
Layers
Channels
Paths
Kind
Normal
Opacity:

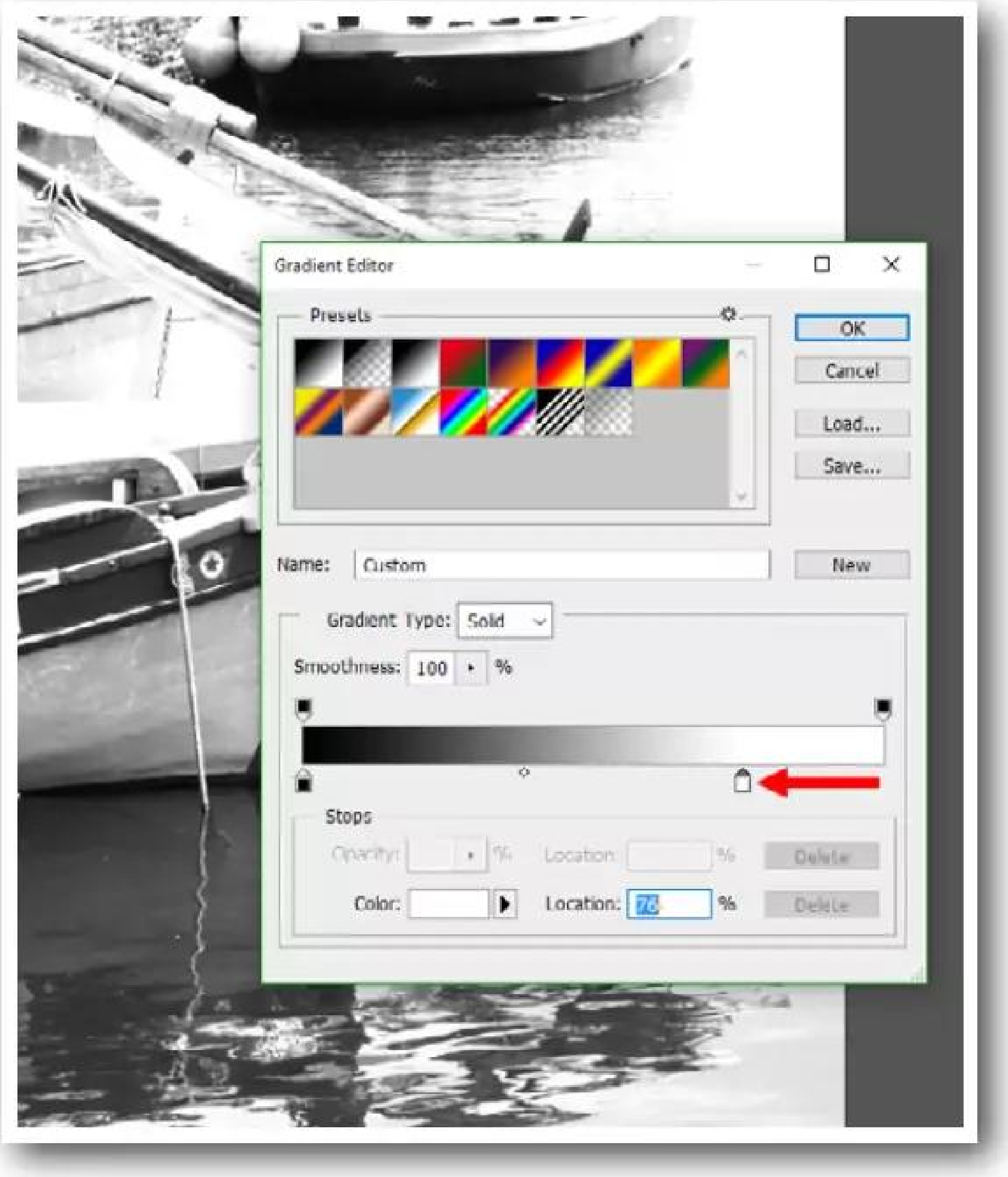
Gradient Map

Continued.


Gradient Editor
Presets
OK
Cancel
Load...
Save...
New
Stops
Opacity:
Location:
Delete
Color:

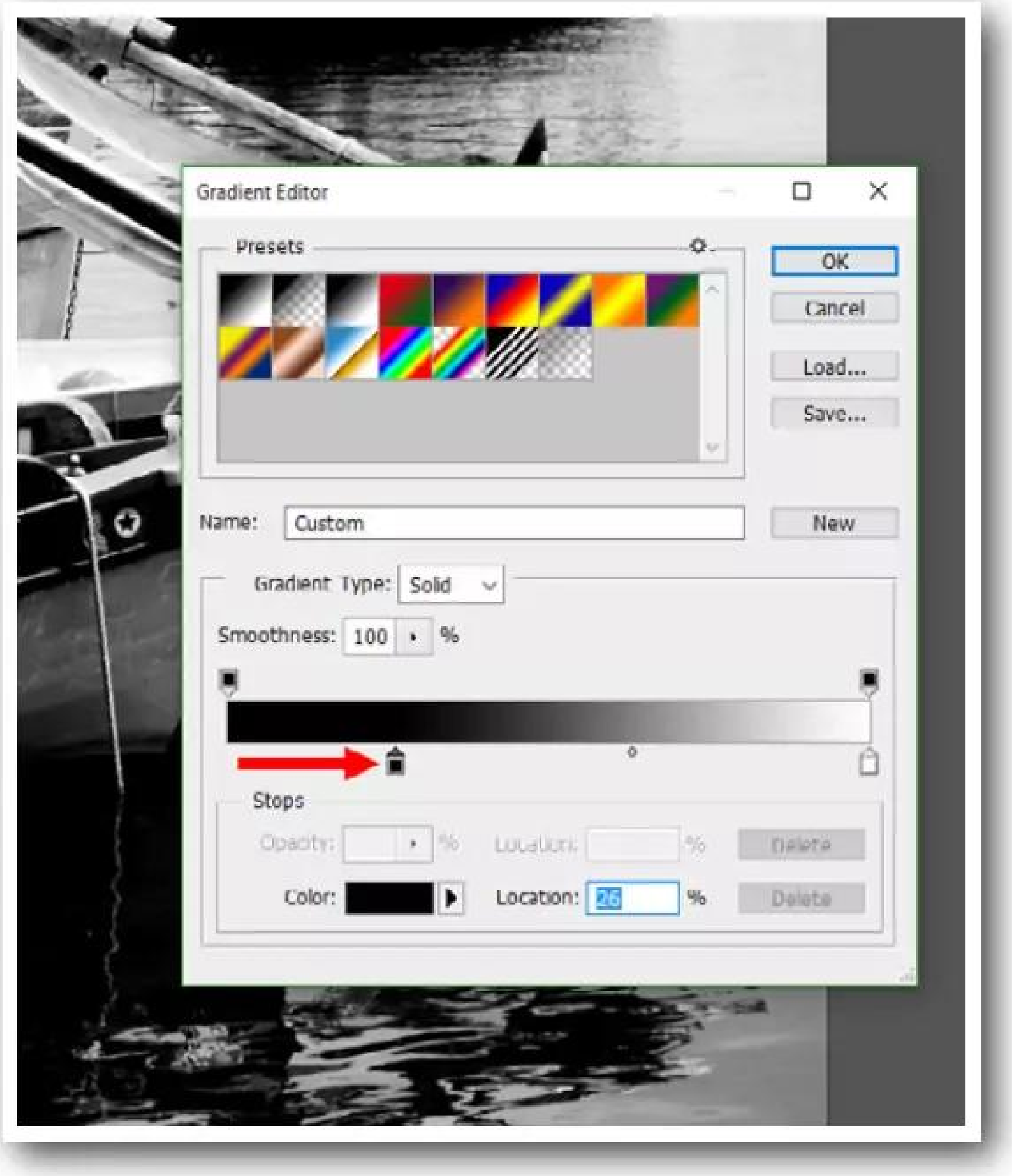
Name: Foreground to Background
Gradient Type: Solid
Smoothness: 100 %

05 Clicking the gradient bar opens the Gradient Editor screen. You can use this to change the black-to-white gradient; but the part we're interested in is the large slider in the lower half of the window, which controls the end points and slope of the gradient.


Gradient Editor
Presets
OK
Cancel
Load...
Save...
New
Stops
Opacity:
Location:
Delete
Color:

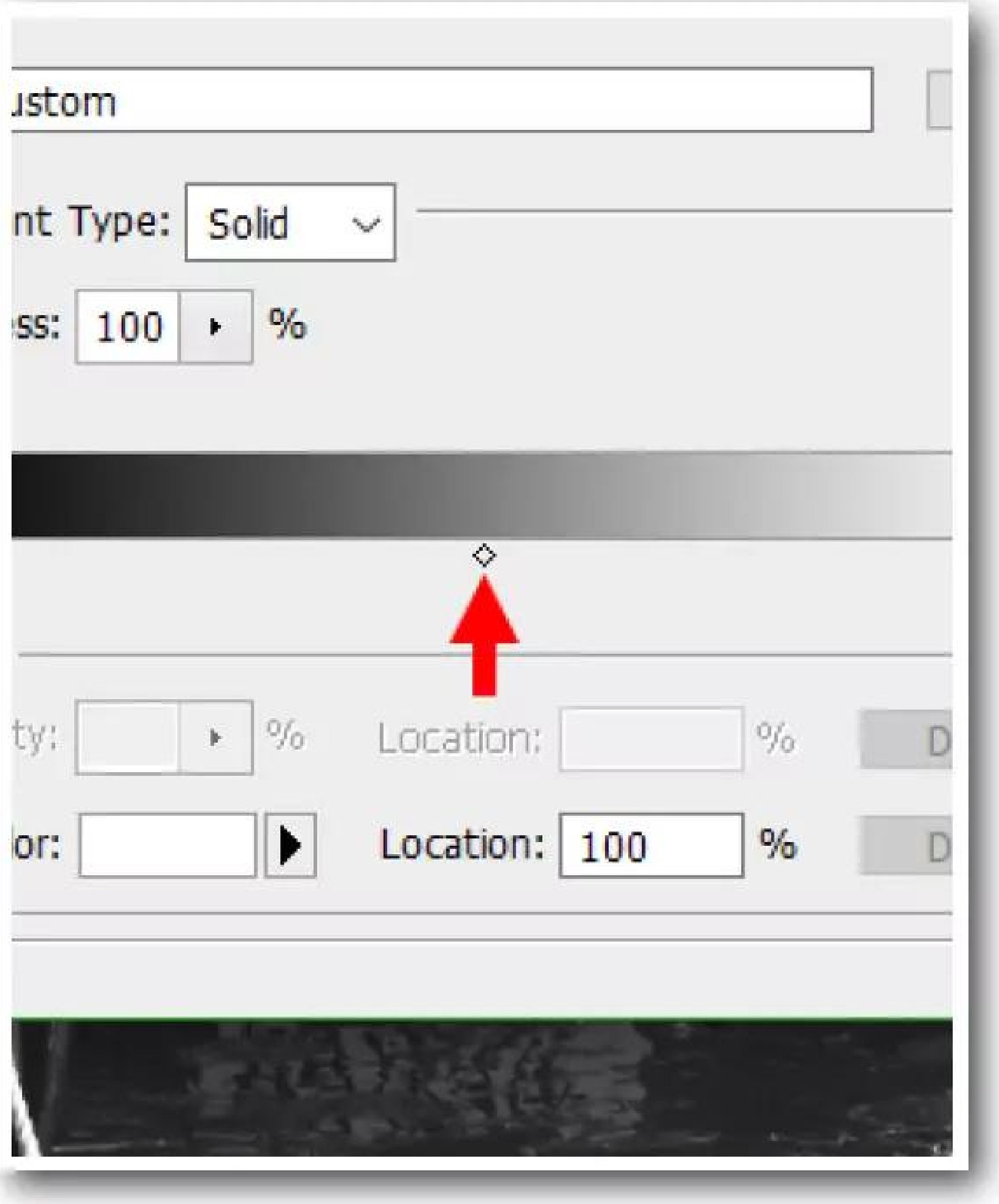
Name: Custom
Gradient Type: Solid
Smoothness: 100 %

06 You'll see that the slider bar has four point markers, two at the top and two at the bottom. The bottom pair controls the position of the end points of the gradient map. Moving the white point to the left will make more pixels white...

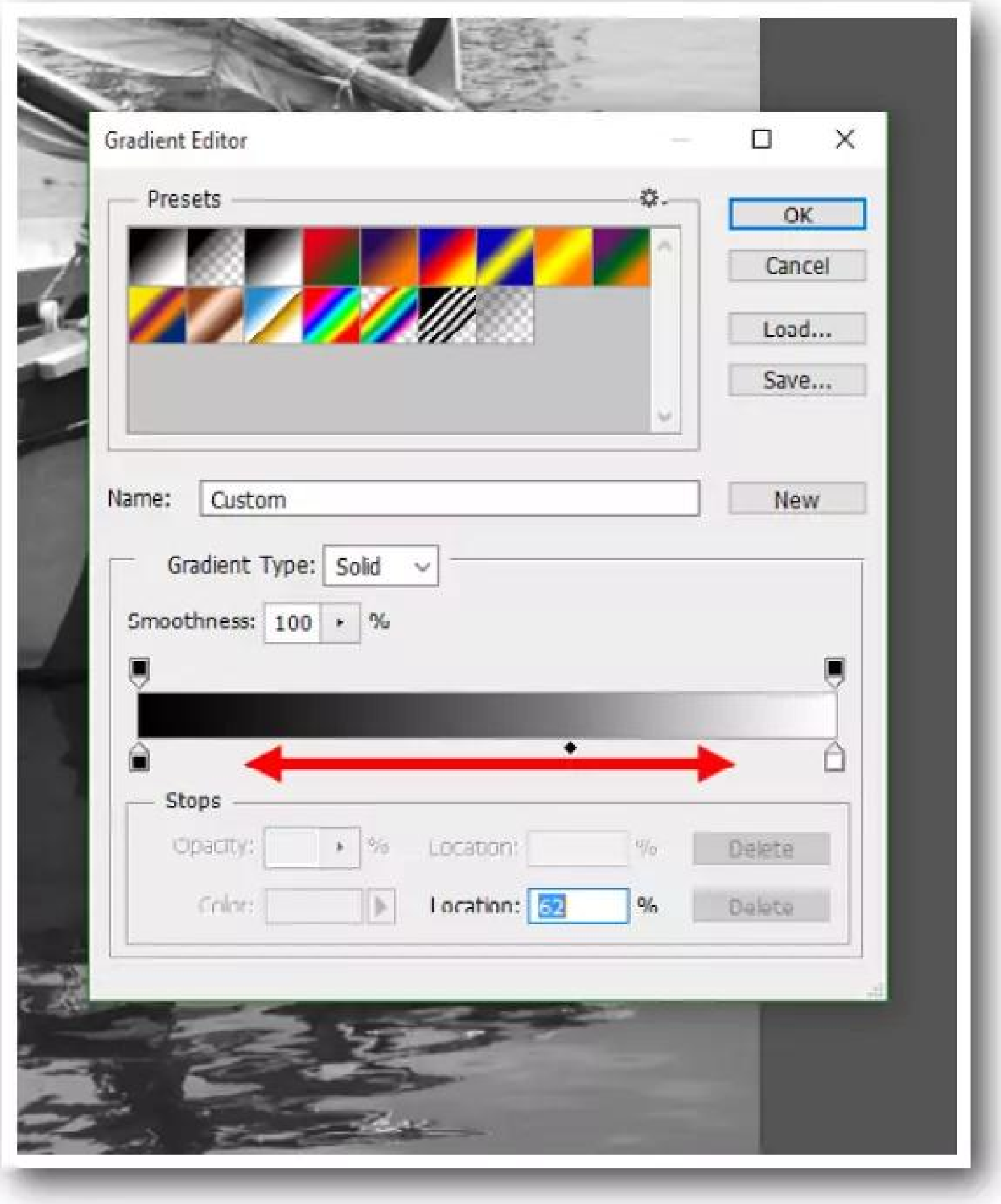

Gradient Editor
Presets
OK
Cancel
Load...
Save...
New
Stops
Opacity:
Location:
Delete
Color:

Name: Custom
Gradient Type: Solid
Smoothness: 100 %

07 ...while moving the black point to the right will turn more pixels black. While these might be useful to achieve certain specific effects, the finished picture may look harsh and poorly exposed, with too much black or white.

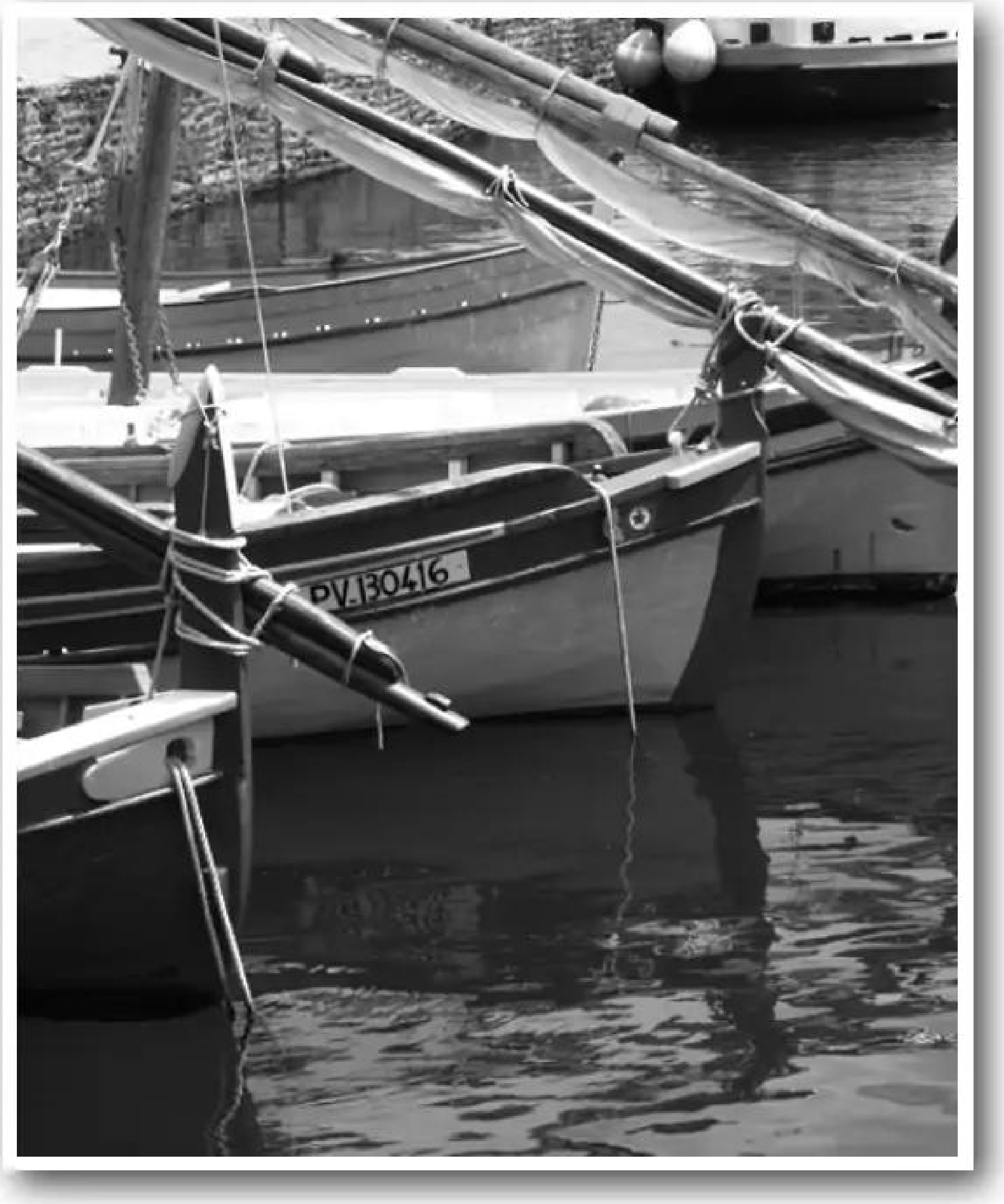

ustom
nt Type:
Solid
ss:
100
%
ty:
%
Location:
or:
Location:
100
%

08 We can produce a much more pleasing result by adjusting the mid-point of the gradient. Click on either of the lower end stops and a mid-point marker will appear below the middle of the lower part of the slider.


Gradient Editor
Presets
OK
Cancel
Load...
Save...
New
Stops
Opacity:
Location:
Delete
Color:

Name: Custom
Gradient Type: Solid
Smoothness: 100 %

09 By moving the mid-point slider to the left or right you can alter the curve of the gradient, making the picture lighter or darker without losing much shadow or highlight detail. You'll have to experiment to see what looks best for each image.



10 As you can see, this method allows us to produce a much more satisfactory result than the previous two methods. By adding fine control over the mid-point of the gradient we can improve contrast without sacrificing detail.

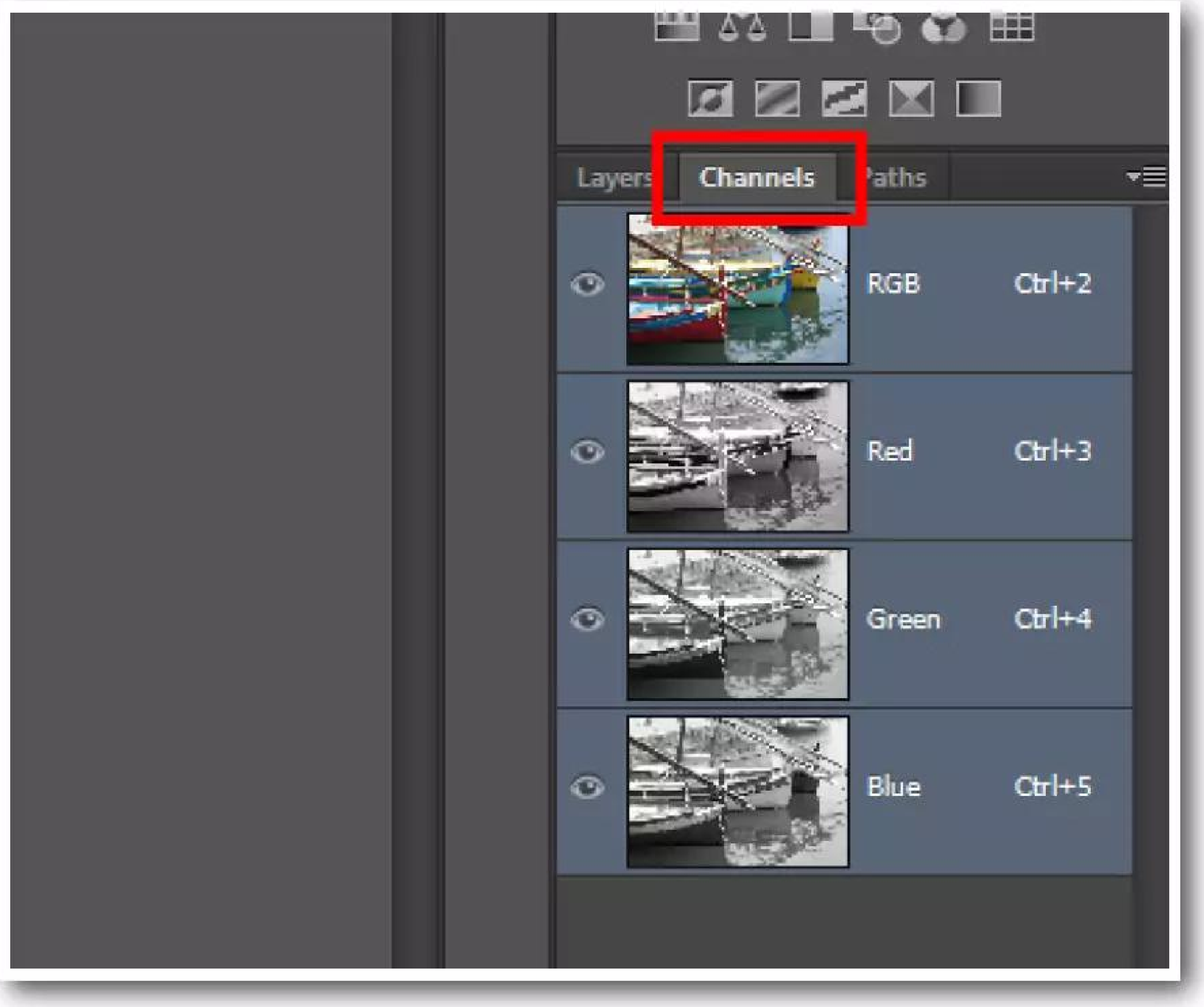
PHOTOSHOP

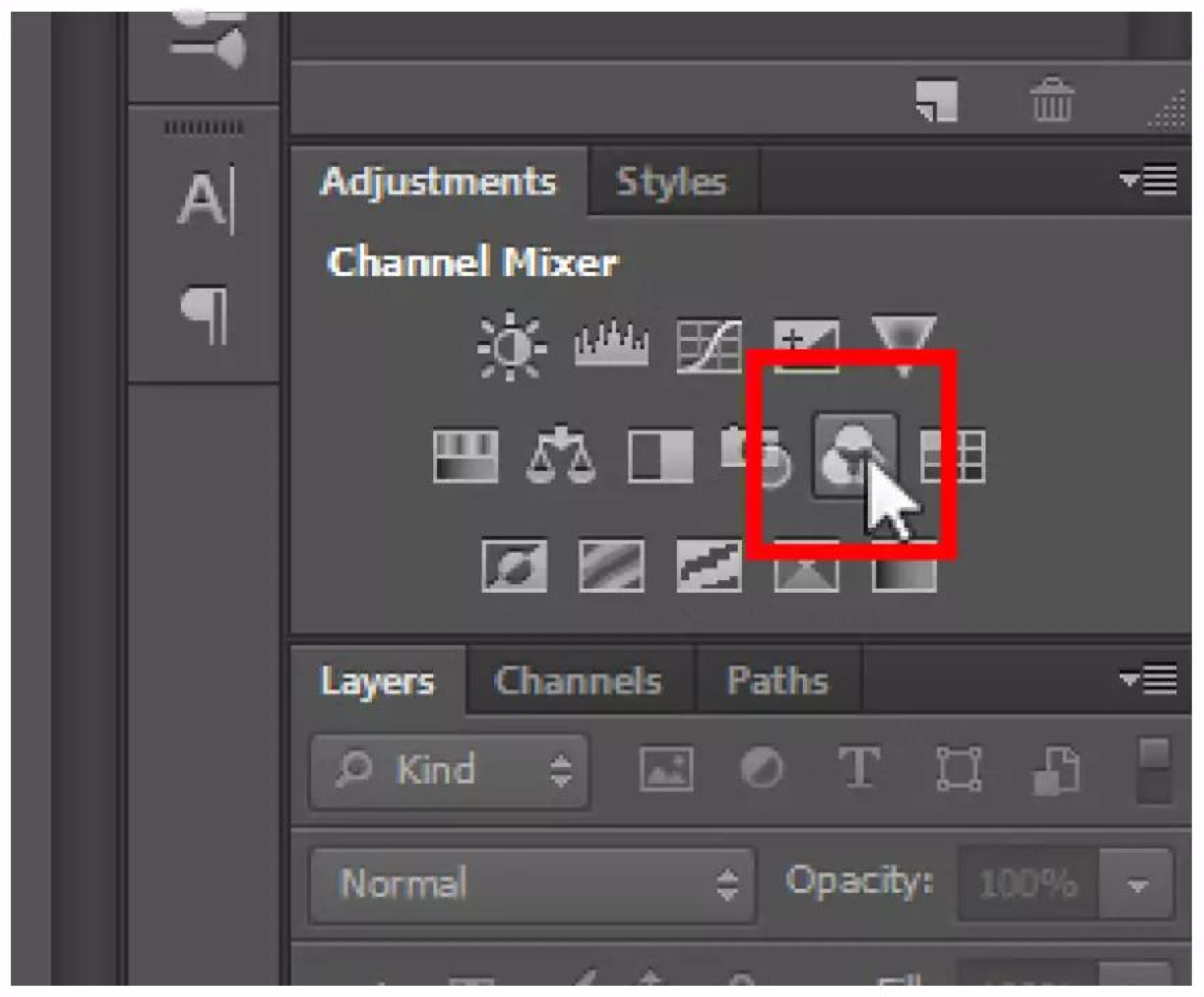
Mono conversion techniques

4

The Channel Mixer

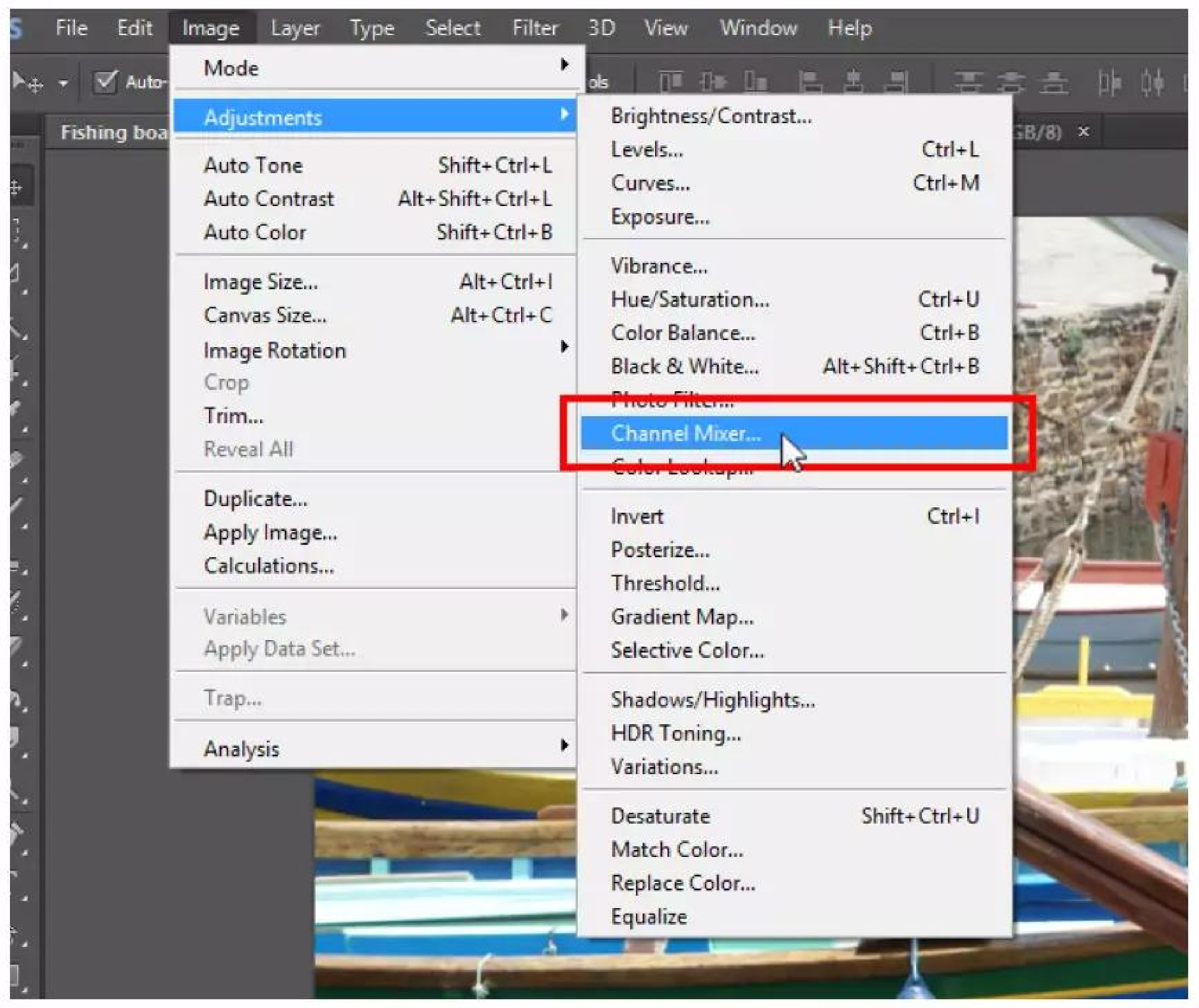
While the gradient map method lets you have some control over the conversion process, this next method lets you control the levels of the colours that go into making up the image by changing the mix of the red, green and blue channels.

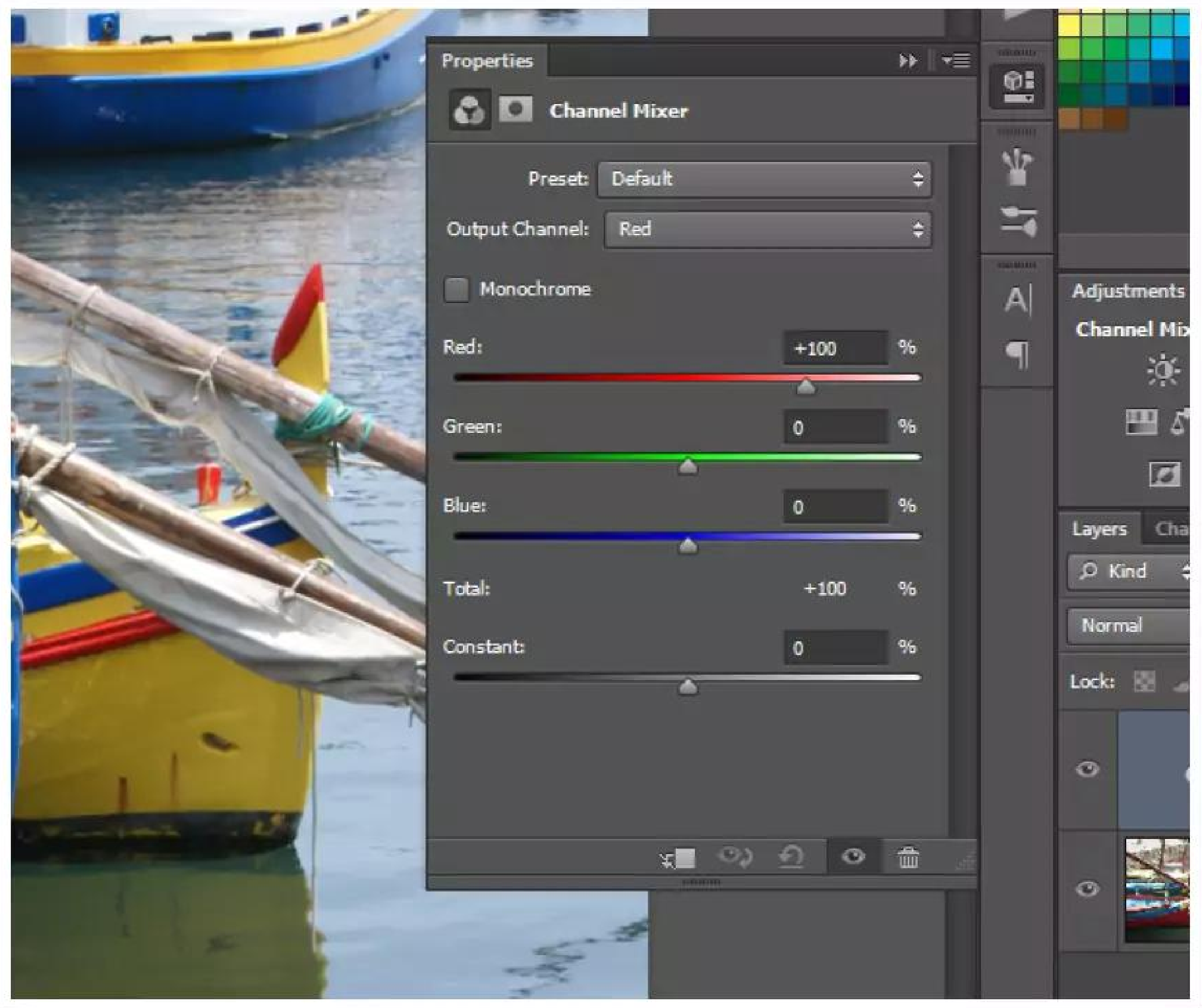

Layers
Channels
Paths
RGB Ctrl+2
Red Ctrl+3
Green Ctrl+4
Blue Ctrl+5


Adjustments
Styles
Channel Mixer
Layers
Channels
Paths
Kind
Normal
Opacity: 100%

01 In a standard JPEG image the picture you see is made up of three channels, each with a different brightness map. You can see these channels by clicking on the Channels tab in the layers palette, which displays the individual channels as well as the composite.

02 If you're using Photoshop CS4 or later, your best option is to use a Channel Mixer adjustment layer. You'll find the button for this to the right of the middle row of buttons in the Adjustments tab panel.


File Edit Image Layer Type Select Filter 3D View Window Help
Mode
Adjustments
Auto Tone Shift+Ctrl+L
Auto Contrast Alt+Shift+Ctrl+L
Auto Color Shift+Ctrl+B
Image Size... Alt+Ctrl+I
Canvas Size... Alt+Ctrl+C
Image Rotation
Crop
Trim...
Reveal All
Duplicate...
Apply Image...
Calculations...
Variables
Apply Data Set...
Trap...
Analysis
Brightness/Contrast...
Levels... Ctrl+L
Curves... Ctrl+M
Exposure...
Vibrance...
Hue/Saturation... Ctrl+U
Color Balance... Ctrl+B
Black & White... Alt+Shift+Ctrl+B
Photo Filter...
Channel Mixer...
Color Lookup...
Invert Ctrl+I
Posterize...
Threshold...
Gradient Map...
Selective Color...
Shadows/Highlights...
HDR Toning...
Variations...
Desaturate Shift+Ctrl+U
Match Color...
Replace Color...
Equalize


Properties
Channel Mixer

Preset: Default
Output Channel: Red
☐ Monochrome
Red: +100 %
Green: 0 %
Blue: 0 %
Total: +100 %
Constant: 0 %

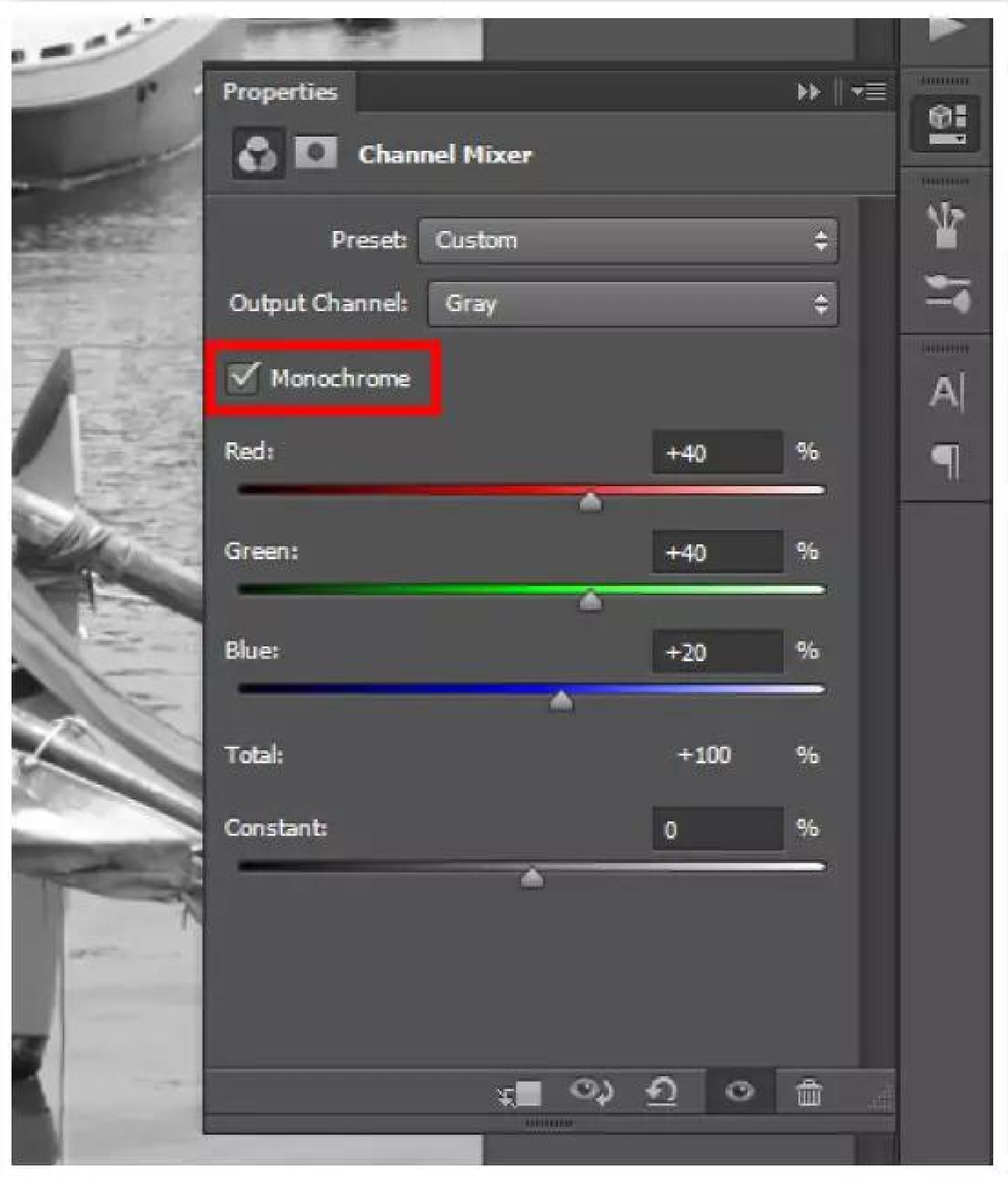
03 If you're using an older version of Photoshop you'll find the Channel Mixer in the Image > Adjustments menu. The Channel Mixer window that opens looks different to the adjustment layer mixer, but works in exactly the same way.

04 The Channel Mixer has four sliders, one for each of the three colour channels and a Constant slider which acts as a master control for the intensity of the output channel. By default this is the red channel, but you can change this via the drop-down menu.

Silver Efex Pro 2
GLOBAL ADJUSTMENTS
Brightness
Highlights
Midtones
Shadows
Dynamic Brightness
Contrast
Amplify Whites
Reds:
Yellows:
Greens:
Cyans:
Blues:
Magentas:
Adjustments
Styles
Black & White
Layers
Channels
Paths

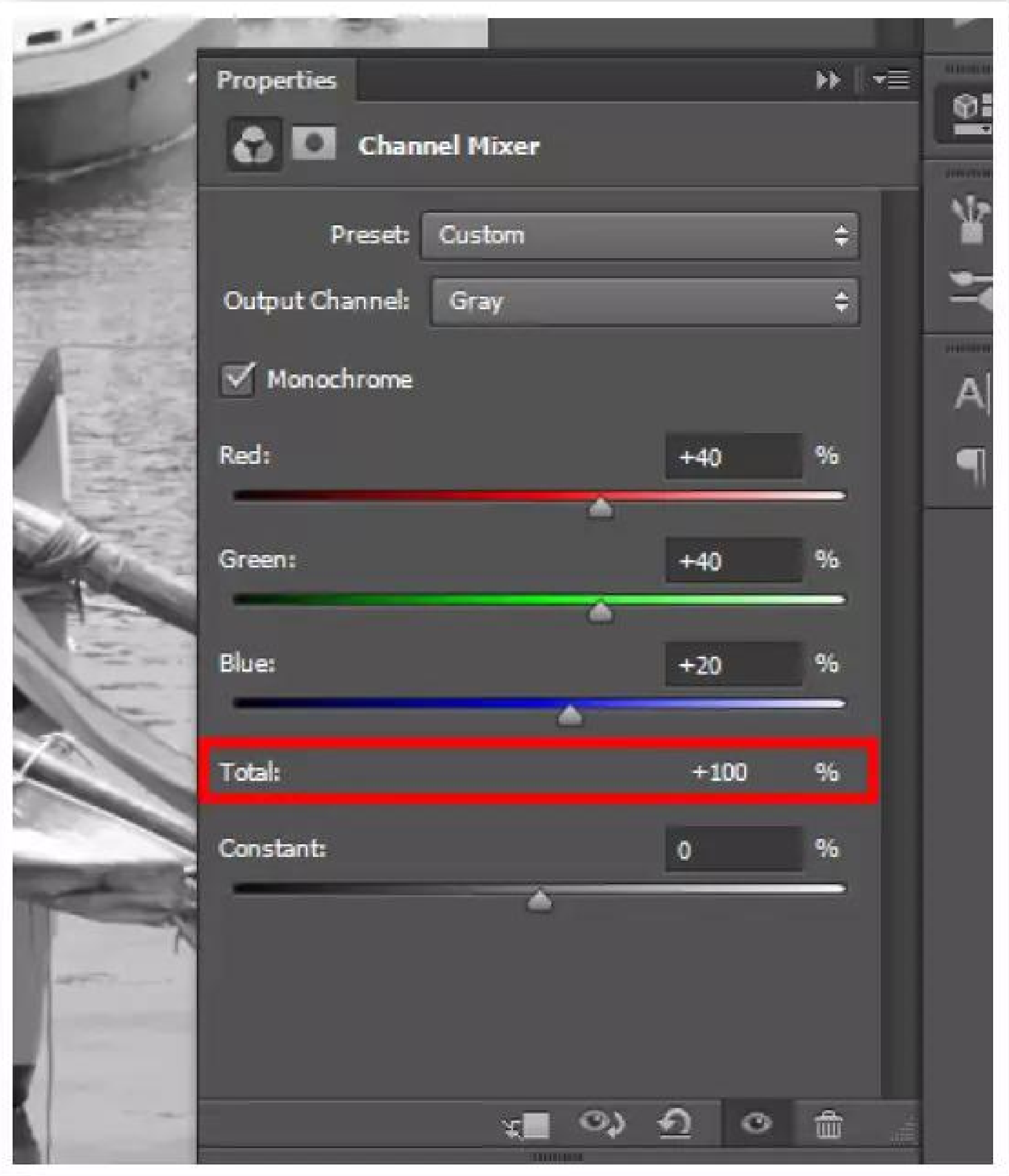
The Channel Mixer

Continued.



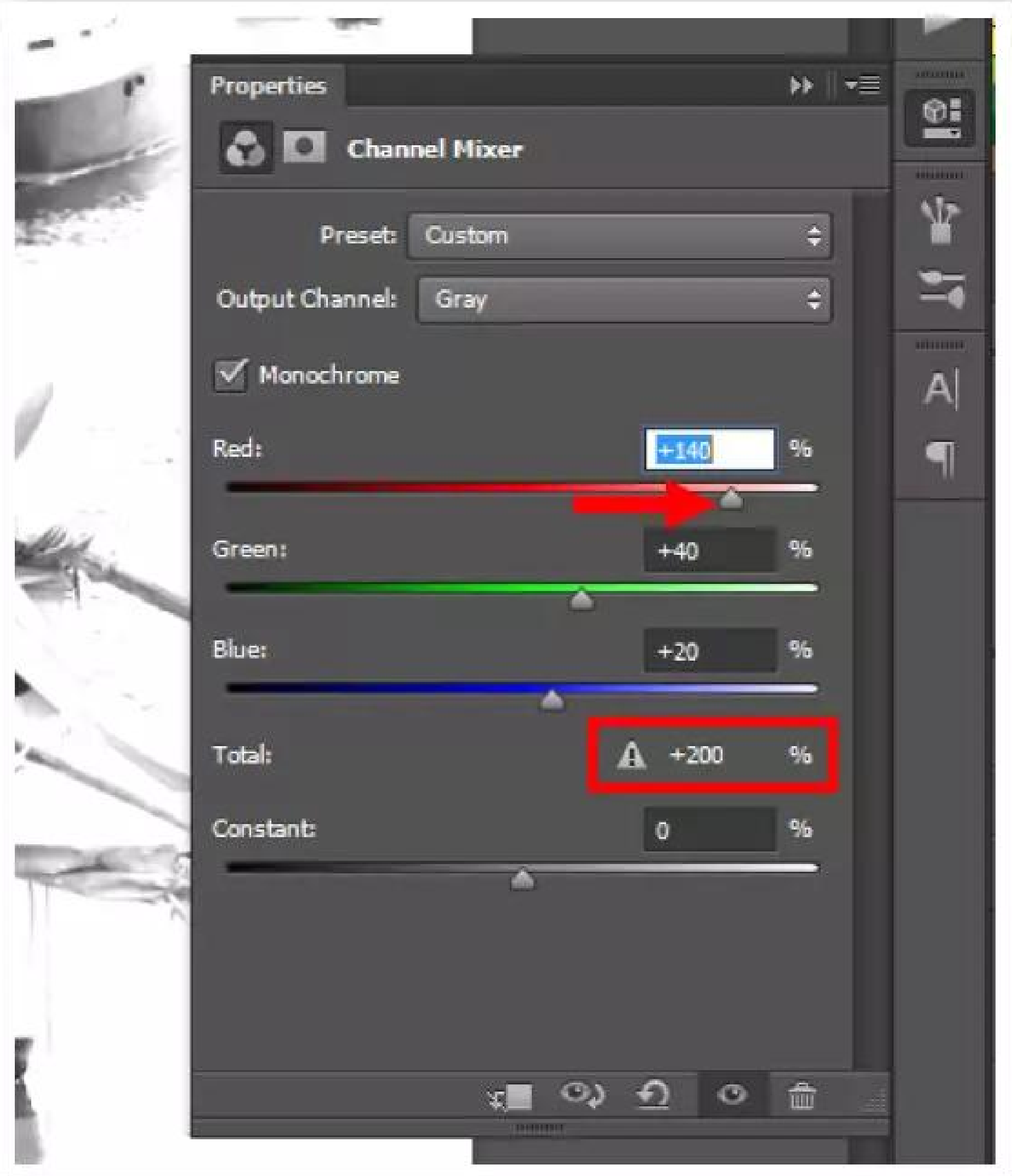
Properties
Channel Mixer
Preset: Custom
Output Channel: Gray
☑ Monochrome
Red: +40 %
Green: +40 %
Blue: +20 %
Total: +100 %
Constant: 0 %

05 To use the Channel Mixer to convert an image to monochrome, you'll need to click on the small check-box just below the drop-down menus, which is labeled "Monochrome". This sets the output channel to grey, removing the colour.



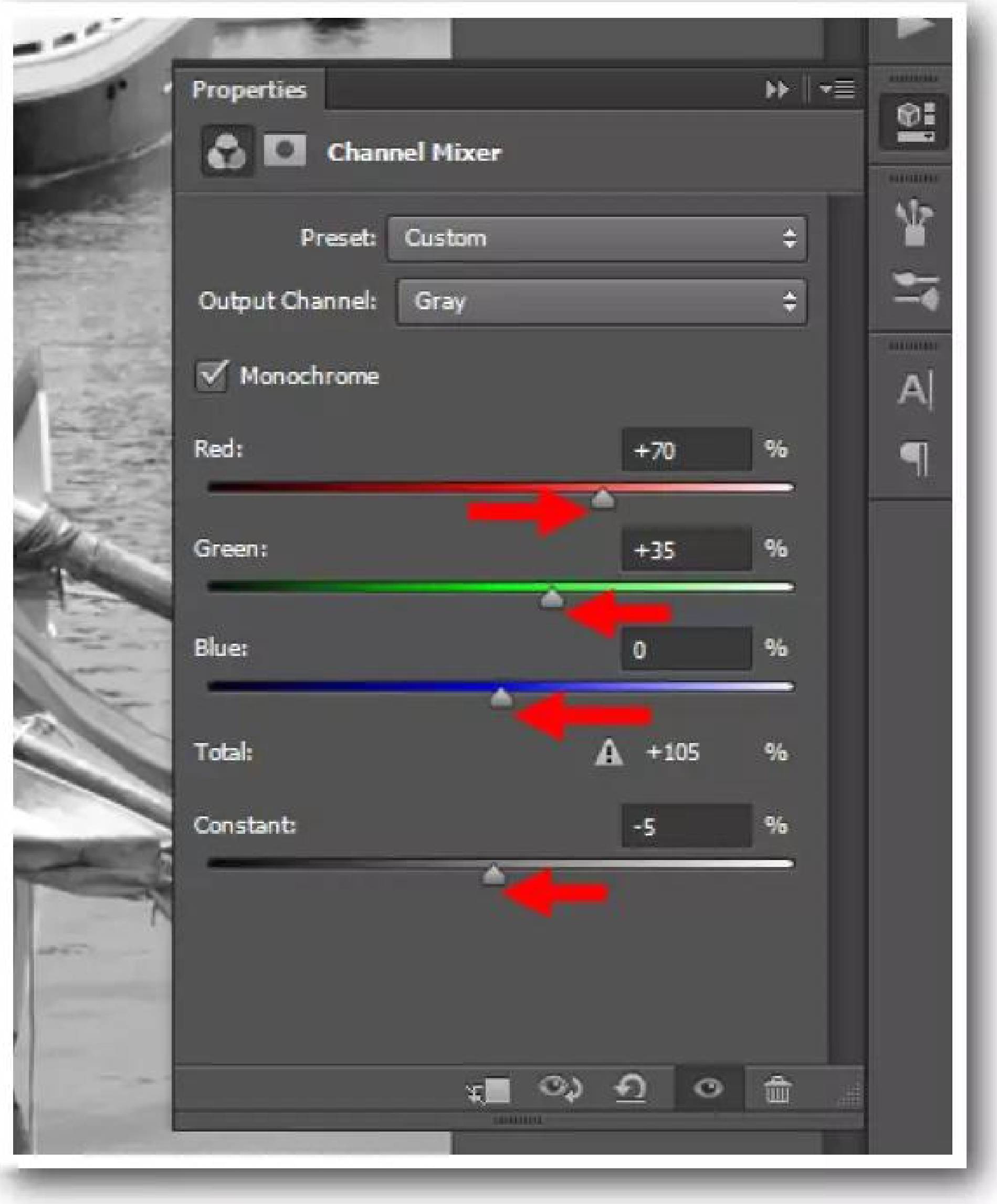
Properties
Channel Mixer
Preset: Custom
Output Channel: Gray
☑ Monochrome
Red: +40 %
Green: +40 %
Blue: +20 %
Total: +100 %
Constant: 0 %

06 By default the monochrome channel levels are set to +40% for red and green, and +20% for blue. You'll notice that there's a total shown below the sliders, which will be at +100% when you start, since 40+40+20=100.



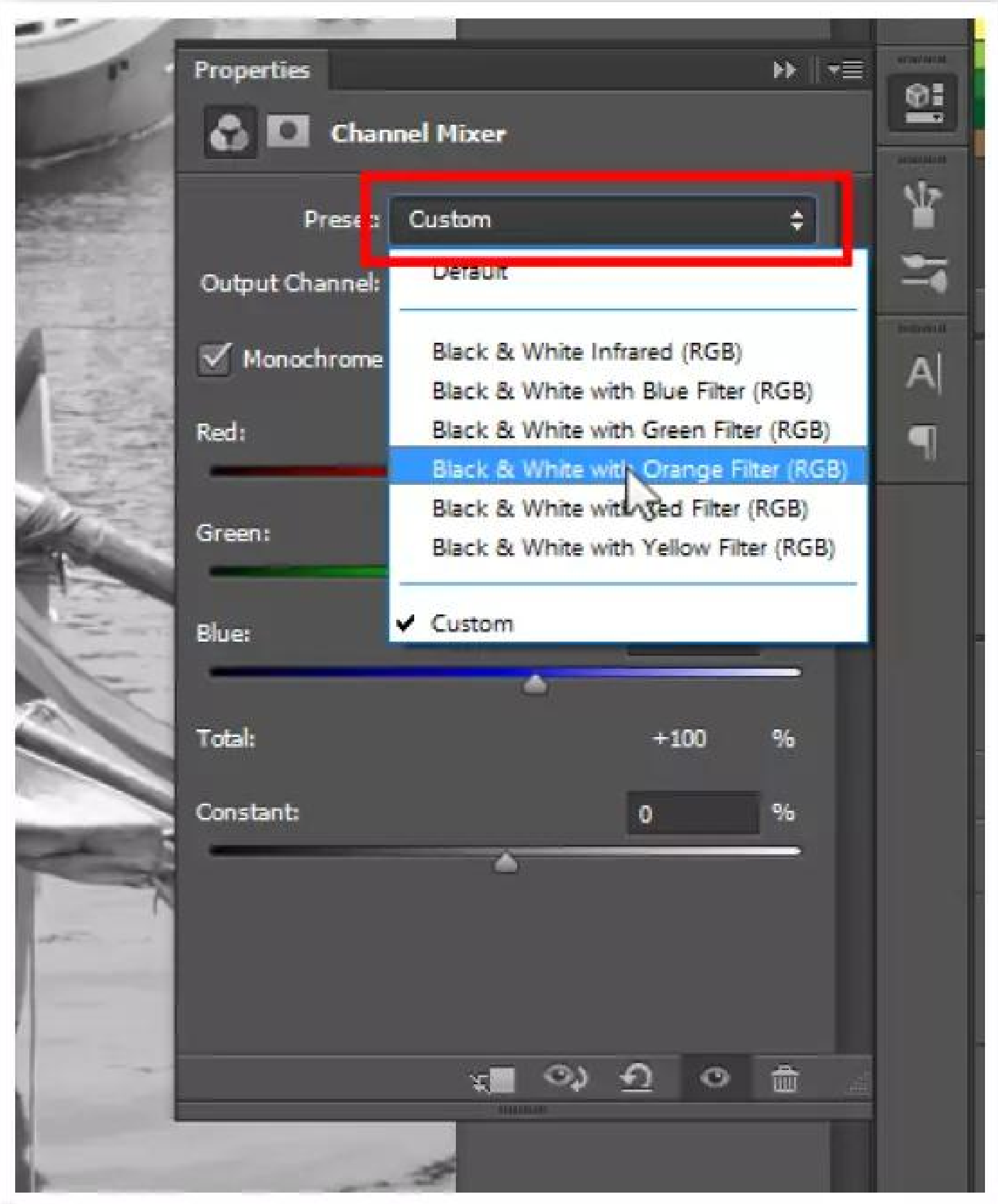
Properties
Channel Mixer
Preset: Custom
Output Channel: Gray
☑ Monochrome
Red: +140 %
Green: +40 %
Blue: +20 %
Total: ⚠ +200 %
Constant: 0 %

07 Since the adjustment layer is non-destructive, you can safely experiment by moving the sliders around. You'll notice that if you increase one without reducing another, the brightness will increase and the total will be more than +100%.



Properties
Channel Mixer
Preset: Custom
Output Channel: Gray
☑ Monochrome
Red: +70 %
Green: +35 %
Blue: 0 %
Total: ⚠ +105 %
Constant: -5 %

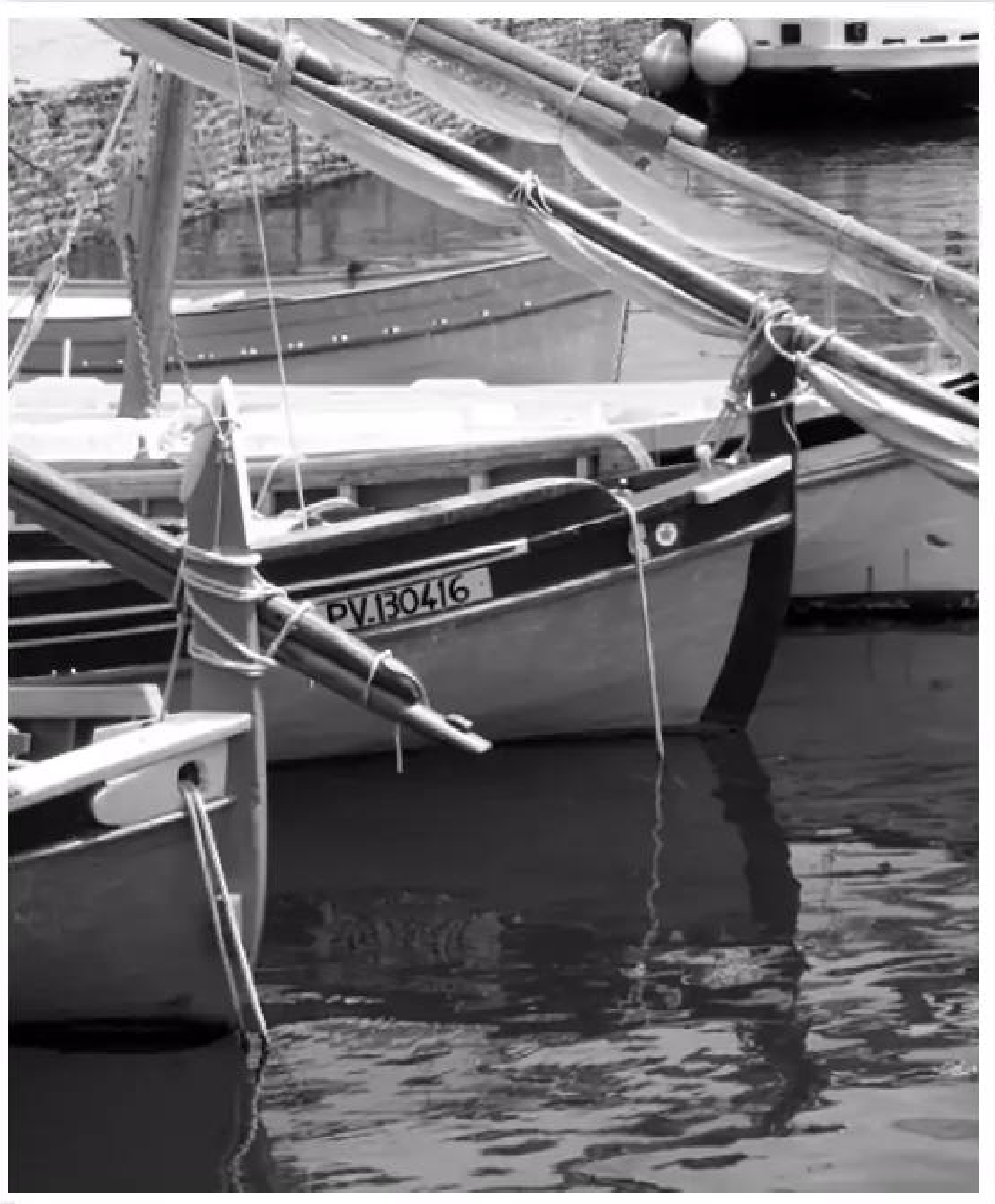
08 In order to maintain exposure as you increase one channel, you must reduce one or both of the others so that the total remains at +100%. Alternatively you can redress the balance by adjusting the Constant slider by the appropriate amount to balance the sum.



Properties
Channel Mixer
Preset: Custom
Output Channel:
☑ Monochrome
Red:
Green:
Blue:
Total: +100 %
Constant: 0 %

Default
Black & White Infrared (RGB)
Black & White with Blue Filter (RGB)
Black & White with Green Filter (RGB)
Black & White with Orange Filter (RGB)
Black & White with Red Filter (RGB)
Black & White with Yellow Filter (RGB)
✓ Custom

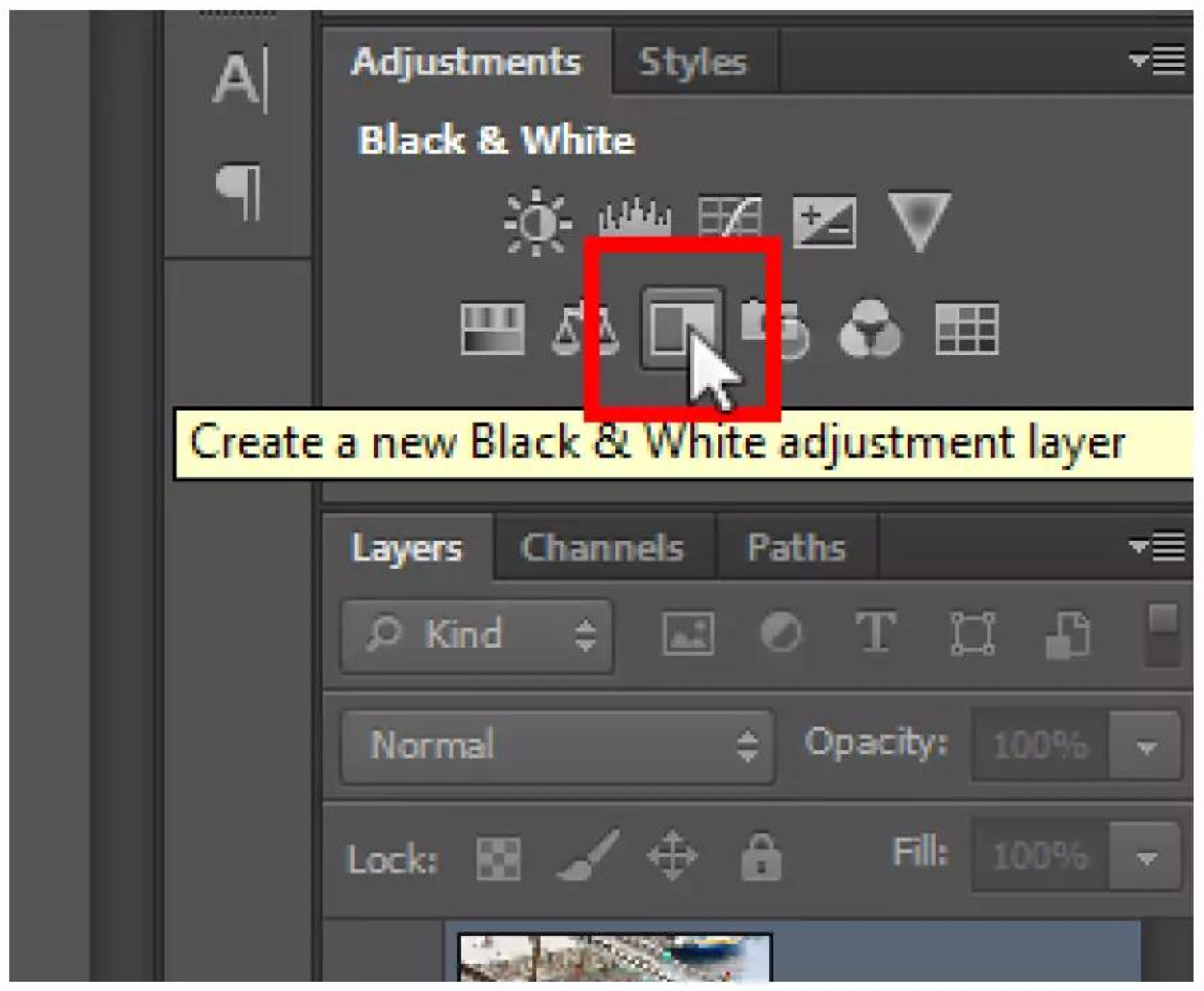
09 If you just want to replicate the effects of photographic colour filters on your monochrome image you'll find a selection of pre-set values in a drop-down menu, with settings for a range of colour filters, as well as one that simulates the effects of an infra-red filter.



10 As you can see, the channel mixer produces a much more satisfactory result. This is with a boost to the red channel, a slight boost to green, and less blue, with a -5% constant reduction. It has produced nice tonal range with good contrast.

5 Black and White Adjustment

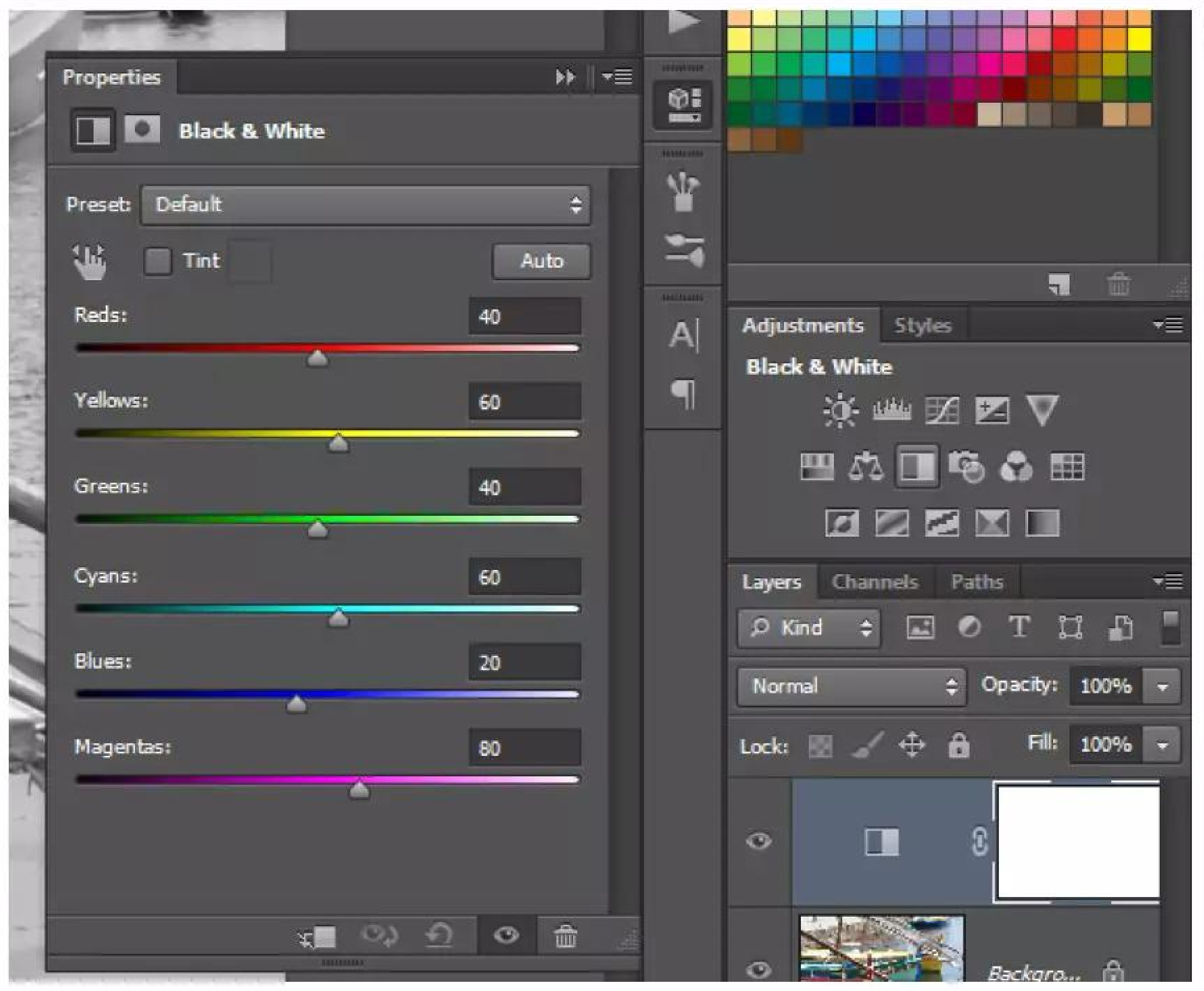
The latest versions of Photoshop include a dedicated Black & White conversion filter that accurately mimics the techniques of monochrome photography and offers great results.


Adjustments
Styles
Black & White
Layers
Channels
Paths
Kind
Lock:

Create a new Black & White adjustment layer

Normal
Opacity: 100%
Fill: 100%

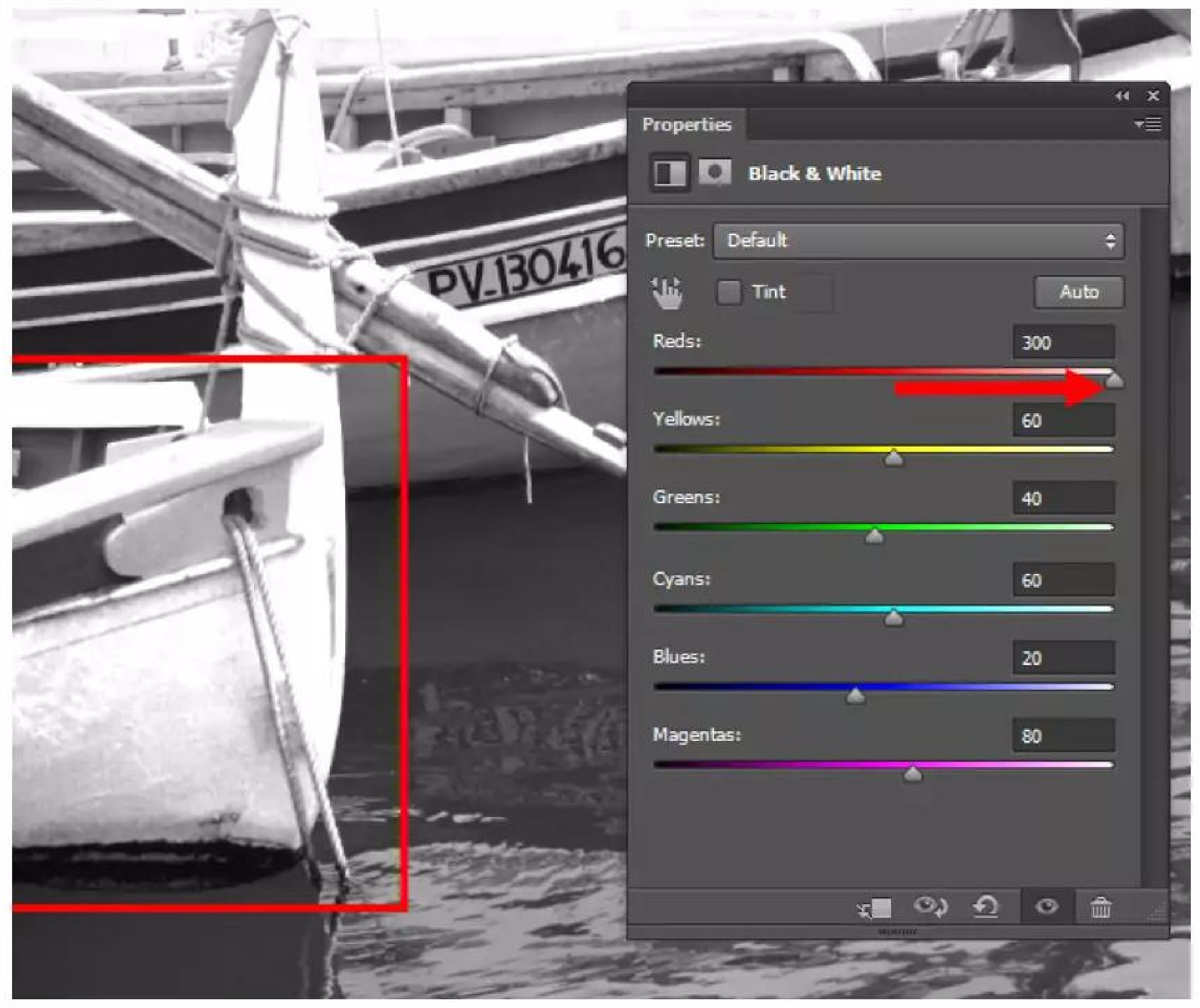
01 Like most filters and effects, the Black & White Adjustment filter is best applied as a non-destructive adjustment layer. You'll find it in the centre of the middle row of buttons in the adjustment layer tab.


Properties
Black & White
Tint
Auto
Adjustments
Styles
Black & White
Layers
Channels
Paths
Kind
Lock:
Backgro...

Preset: Default
Reds: 40
Yellows: 60
Greens: 40
Cyans: 60
Blues: 20
Magentas: 80

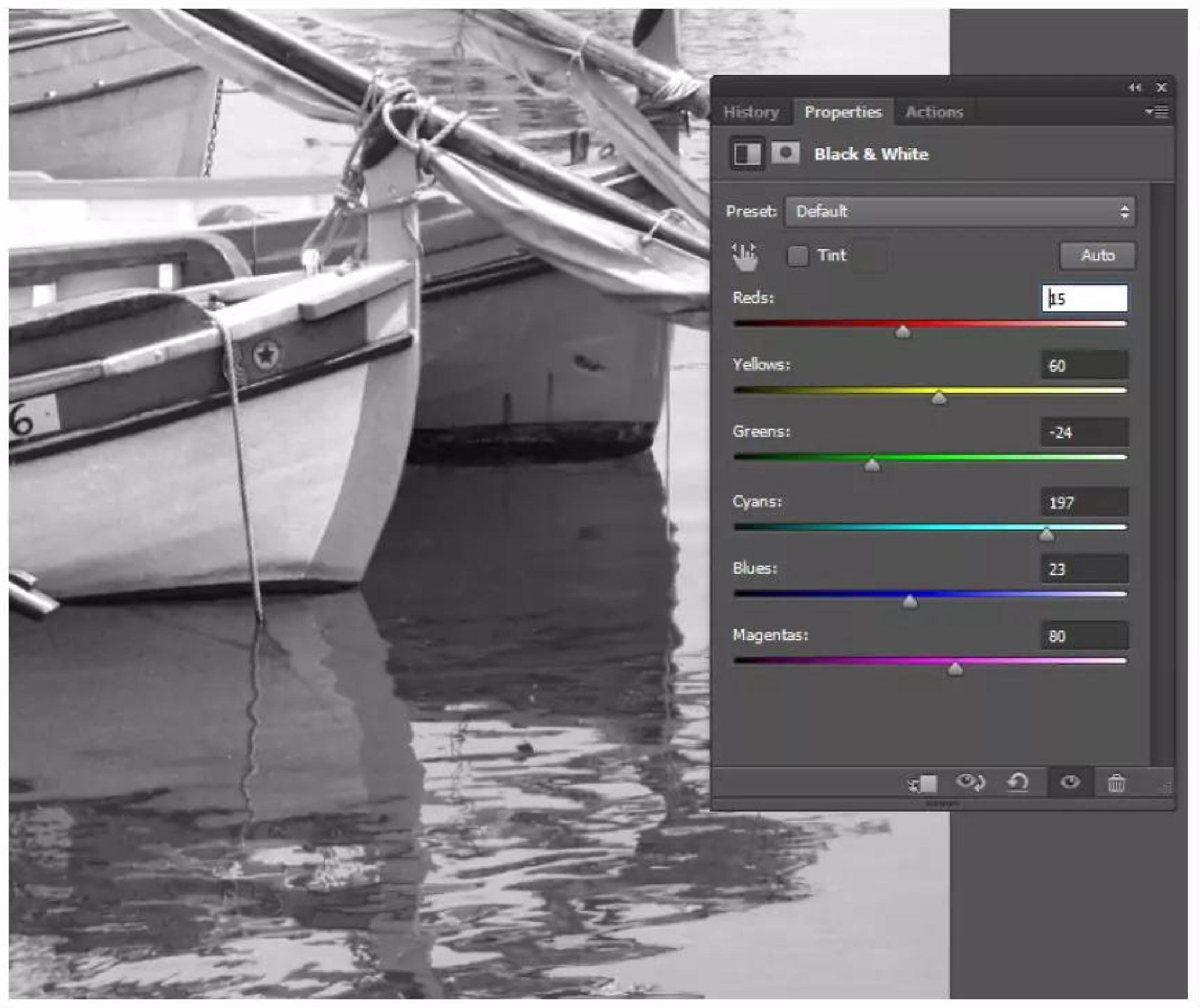
Normal
Opacity: 100%
Fill: 100%

02 The Adjustment control panel has six sliders, one for each of the primary additive and subtractive colours: red, yellow, green, cyan, blue and magenta. They are pre-set to default values that Photoshop uses as a starting point for monochrome conversion.


PV.130416
Properties
Black & White
Tint
Auto

Preset: Default
Reds: 300
Yellows: 60
Greens: 40
Cyans: 60
Blues: 20
Magentas: 80

03 The sliders control the brightness of each colour within the final mix. If we move the red slider all the way to the right, you'll see that the hull of the red boat in the foreground becomes much lighter, but other tones are unaffected.


History
Properties
Actions
Black & White
Tint
Auto

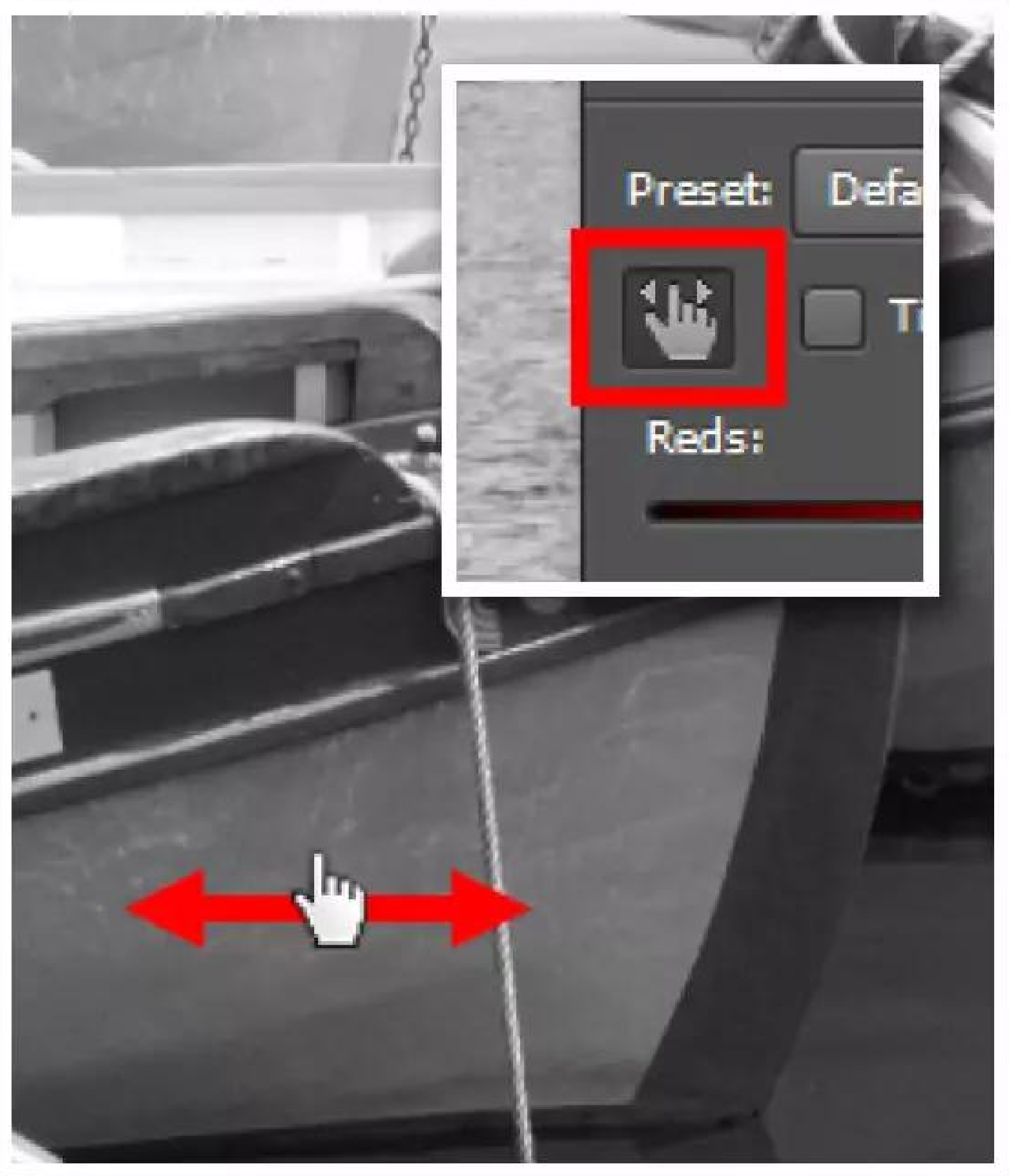
Preset: Default
Reds: 15
Yellows: 60
Greens: -24
Cyans: 197
Blues: 23
Magentas: 80

04 By adjusting the sliders one by one, we can adjust the brightness of any tone in the picture at will. Here we've darkened the hull of the red boat, lightened the cyan boat, and also adjusted the blue and green filters to produce a high-contrast image.

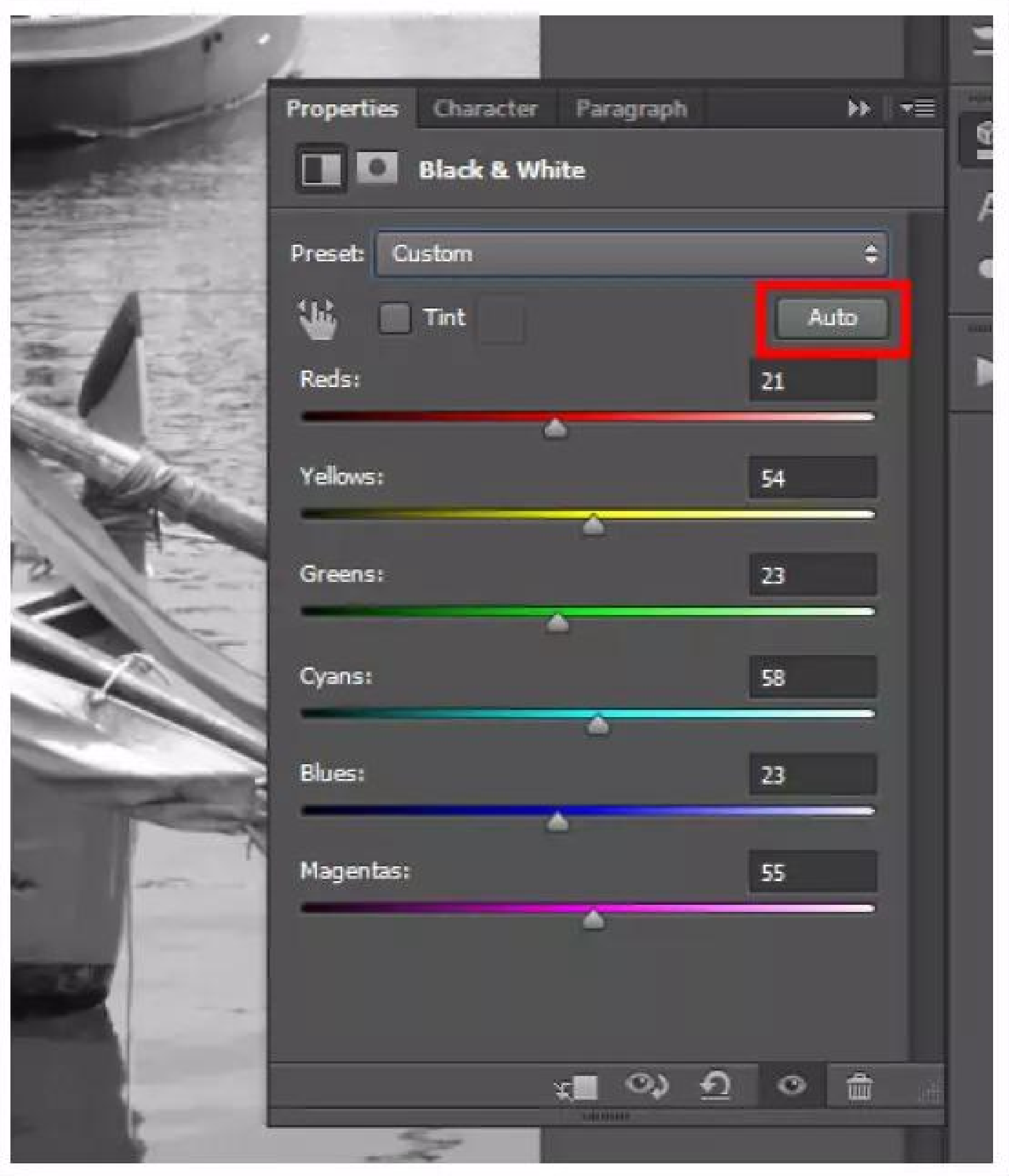
Silver Efex Pro 2
GLOBAL ADJUSTMENTS
Brightness
Highlights
Midtones
Shadows
Dynamic Brightness
Contrast
Amplify Whites
Preset: Default
Reds:
Yellows:
Greens:
Cyans:
Blues:
Magentas:
Adjustments
Styles
Black & White
Layers
Channels
Paths
Kind
Normal
Opacity:

Black and White Adjustment

Continued.

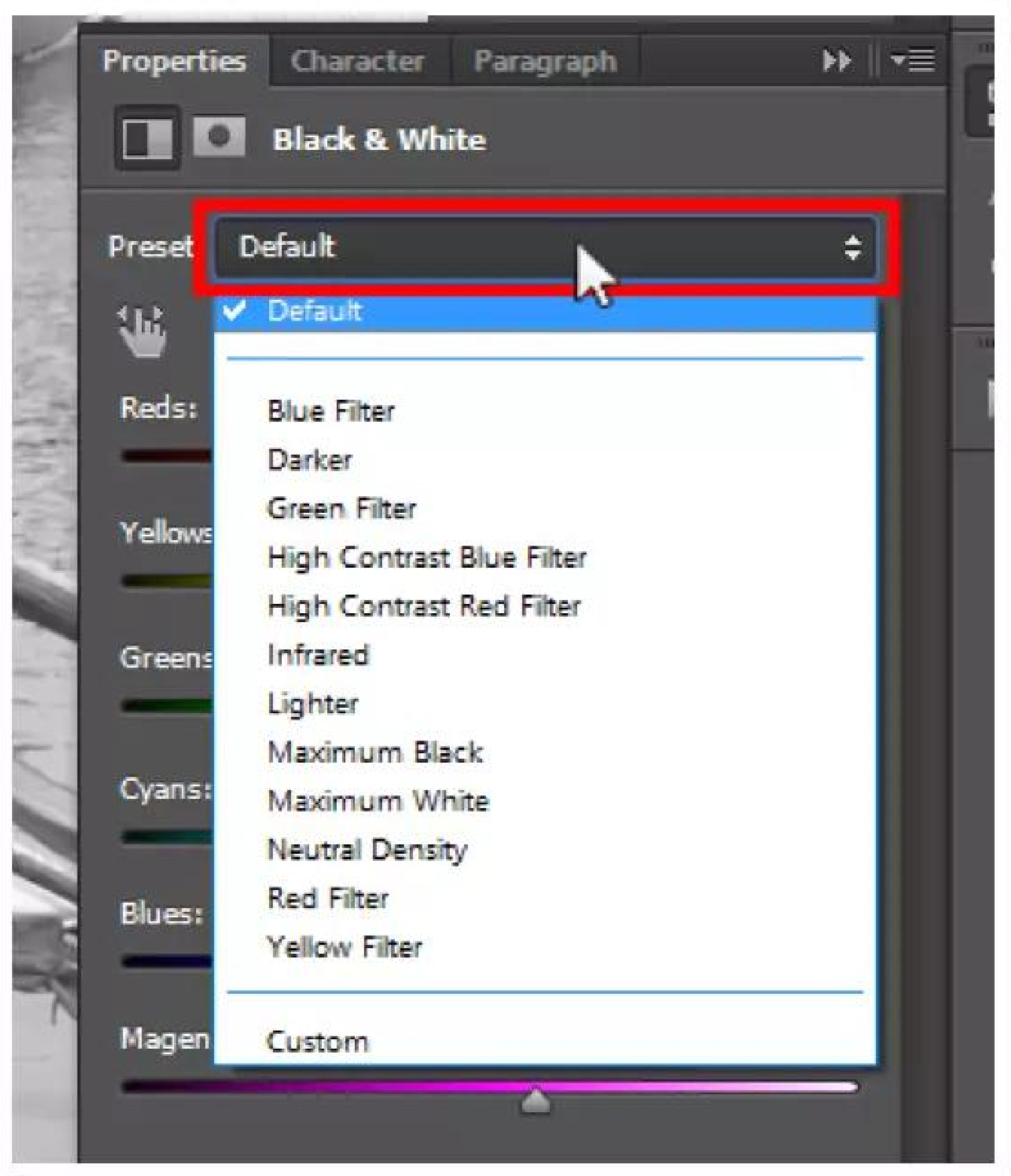

Preset: Defa
Reds:

05 A quick way to adjust the lightness of a tone is the click-and-drag option. Click on the small button in the upper-left of the control panel and then click and hold on any tone area in the image. While holding, move the cursor left or right to change the slider value.

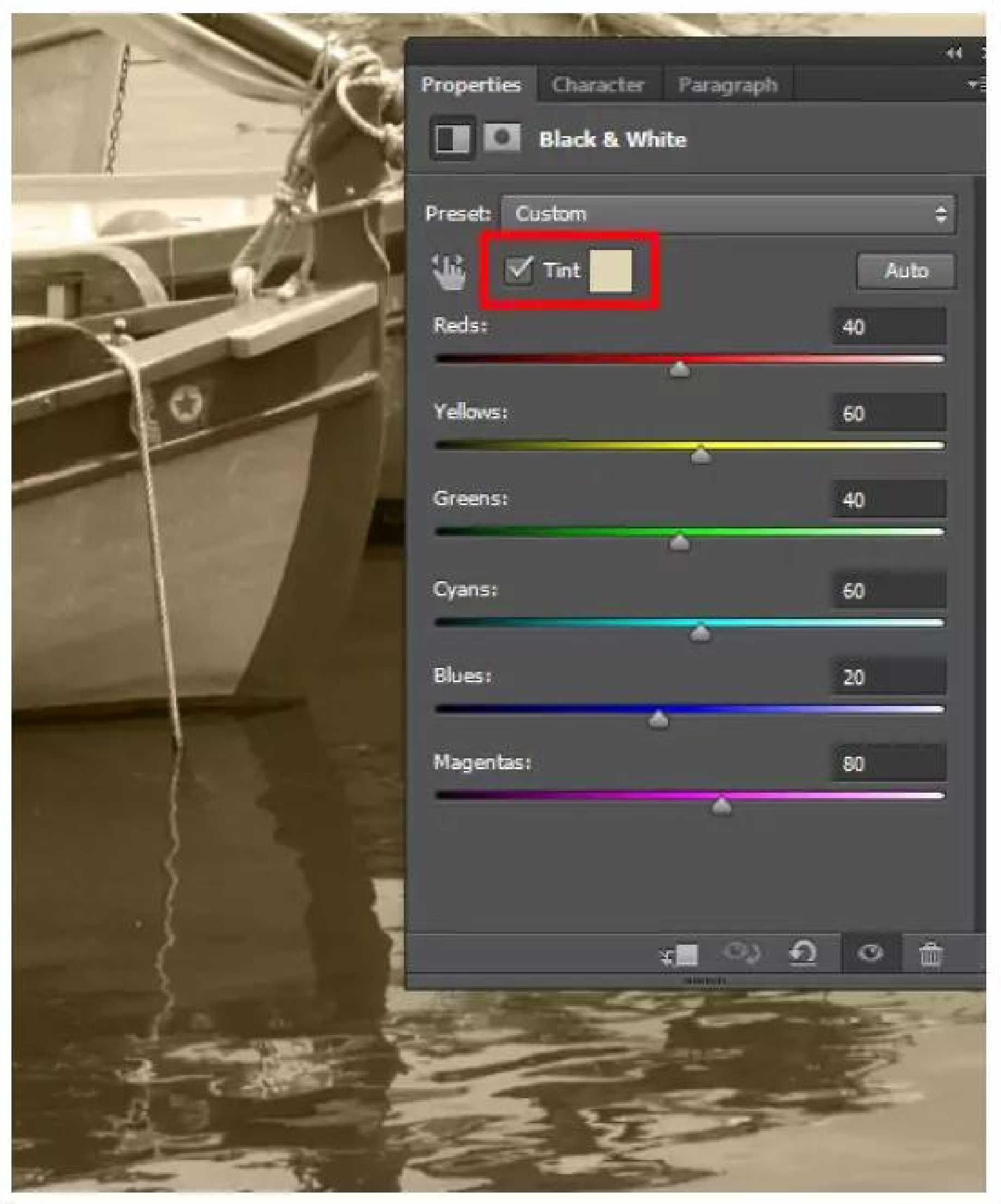

Properties
Character
Paragraph
Black & White
Tint
Auto

Preset: Custom
Reds: 21
Yellows: 54
Greens: 23
Cyans: 58
Blues: 23
Magentas: 55

06 For even quicker results there is an Auto button in the upper-right of the control panel. This produces Photoshop's approximation of the ideal balance of tonal values. The results will be acceptable for an average image, but a bit flat.

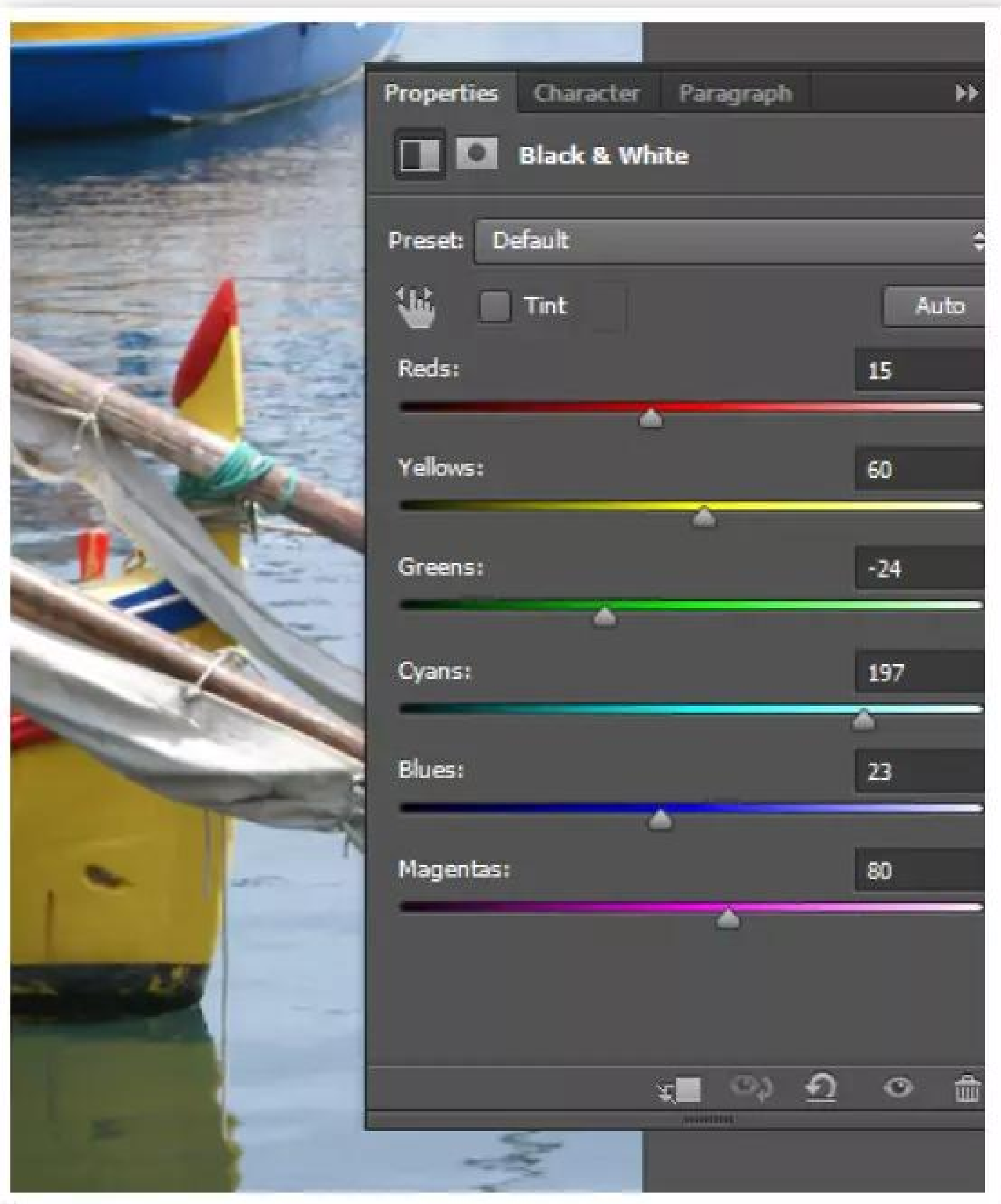

Properties
Character
Paragraph
Black & White
Preset
Default
Default
Blue Filter
Darker
Green Filter
High Contrast Blue Filter
High Contrast Red Filter
Infrared
Lighter
Maximum Black
Maximum White
Neutral Density
Red Filter
Yellow Filter
Custom
Reds:
Yellows
Greens
Cyans:
Blues:
Magen

07 As well as the auto setting, the Black & White Adjustment filter also features a list of pre-sets which you can find by clicking on the pre-sets pop-up menu at the top of the panel. The list is more extensive than the one for the Channel Mixer.


Properties
Character
Paragraph
Black & White
Auto

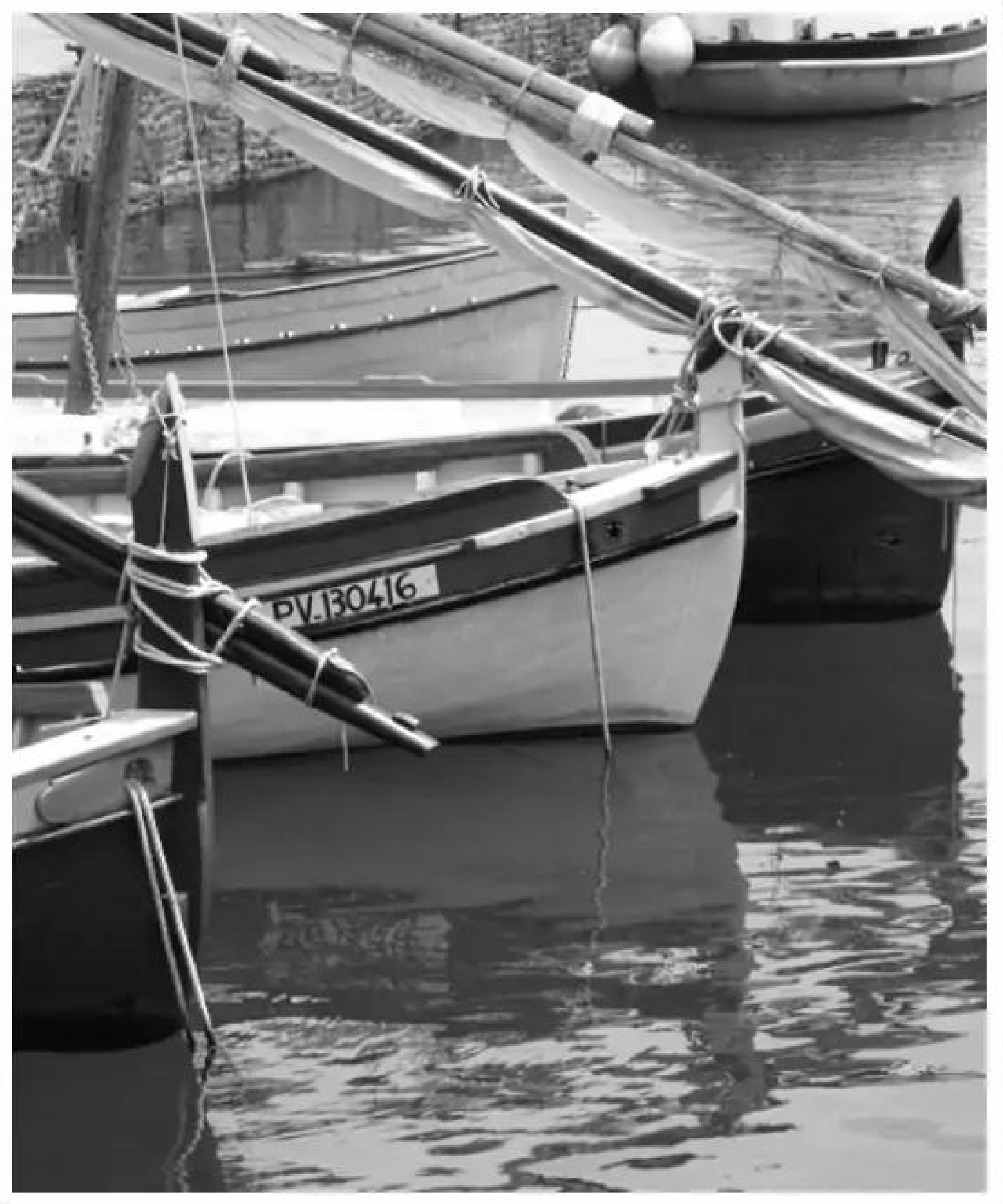
Preset: Custom
☑ Tint
Reds: 40
Yellows: 60
Greens: 40
Cyans: 60
Blues: 20
Magentas: 80

08 Another feature of the Black & White Adjustment panel is the Tint button. This applies a colour tint to the converted monochrome image, and by default it is set to an almost perfect sepia tone, handy for recreating that old fashioned look.


Properties
Character
Paragraph
Black & White
Auto

Preset: Default
☐ Tint
Reds: 15
Yellows: 60
Greens: -24
Cyans: 197
Blues: 23
Magentas: 80

09 While you're editing, if you need to remind yourself what the colour version of the picture looks like, you can simply turn off visibility for the adjustment layer. In the layer palette, select the adjustment layer by clicking on it, and then click the eye button off.



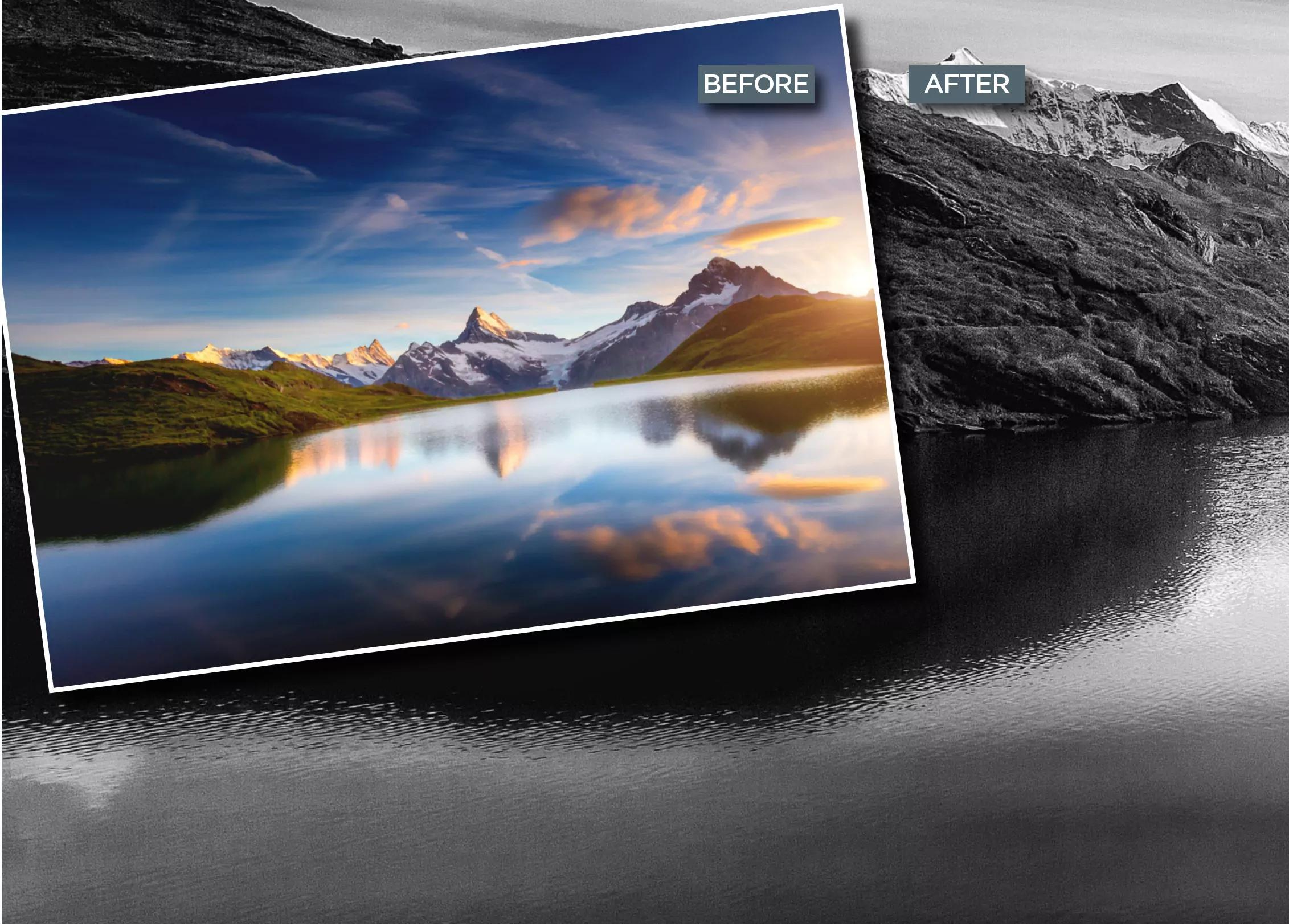
10 Here's that same shot of the fishing boats, but run through the Black & White Adjustment filter. We've used a blue filter, with a slight boost to red as well to bring out some shadow detail. As you can see, this produces by far the most interesting result.

Convert to mono with Silver Efex Pro

MONO CONVERSIONS USING A DEDICATED THIRD-PARTY PLUG-IN

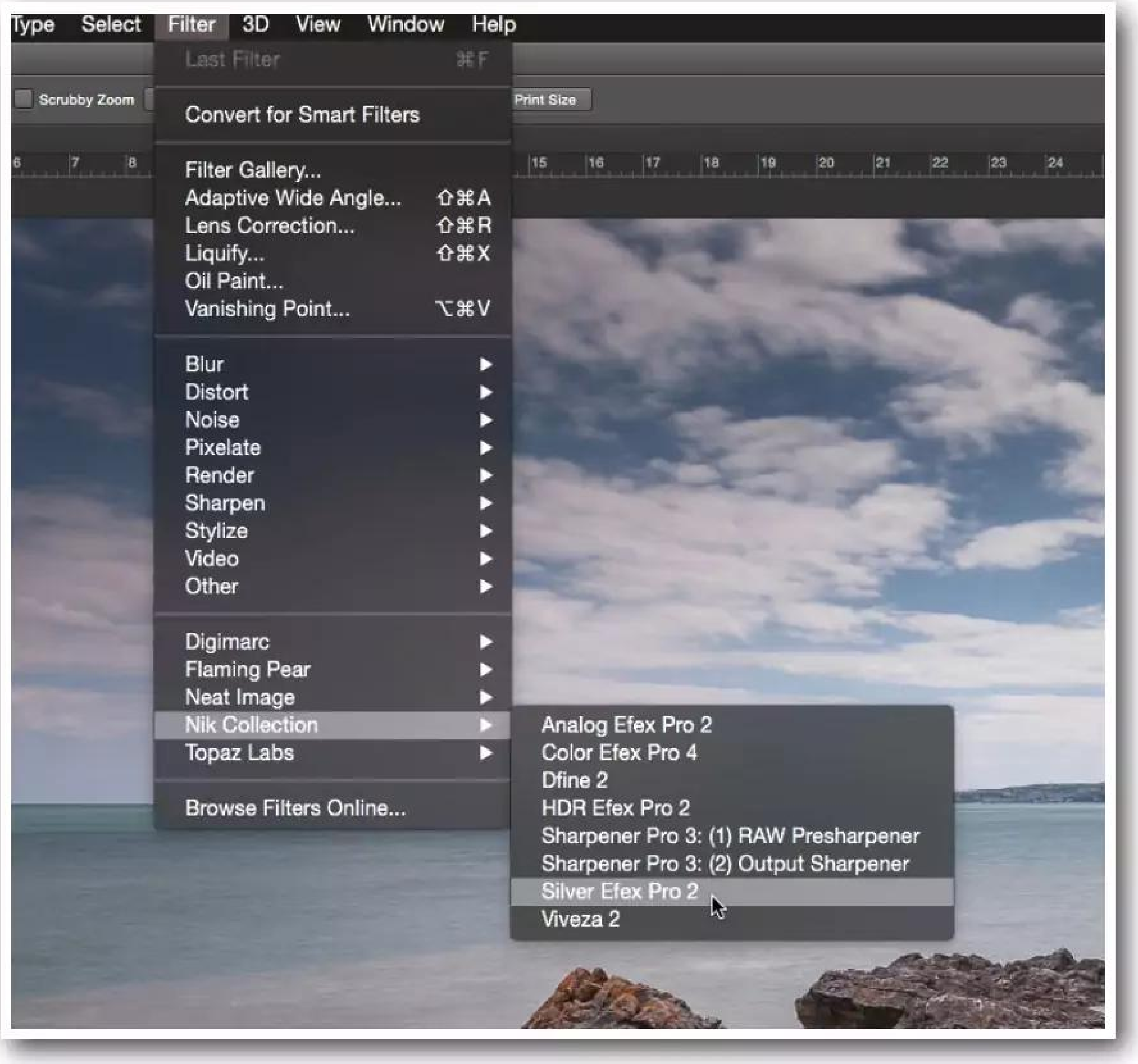
All the previous mono conversion methods we have shown you have their place, and many of them work extremely well. However, there have been a number of Photoshop plug-ins developed recently that are designed for black and white conversion alone. They eke out every last pixel of data from your image to turn it into a beautiful monochrome photo.

One of the most highly regarded plug-ins is Nik Software's Silver Efex Pro. It is one of a suite of plug-ins they make that are designed to convert and enhance your images at the touch of a button and the tweaking of a slider. Recently bought by Google, it is still the premier set of plug-ins for image enhancement. Silver Efex Pro has become the go-to plug-in of choice for the conversion of colour images to black and white, and we will walk you through a simple conversion to show you the power of this great application. ■

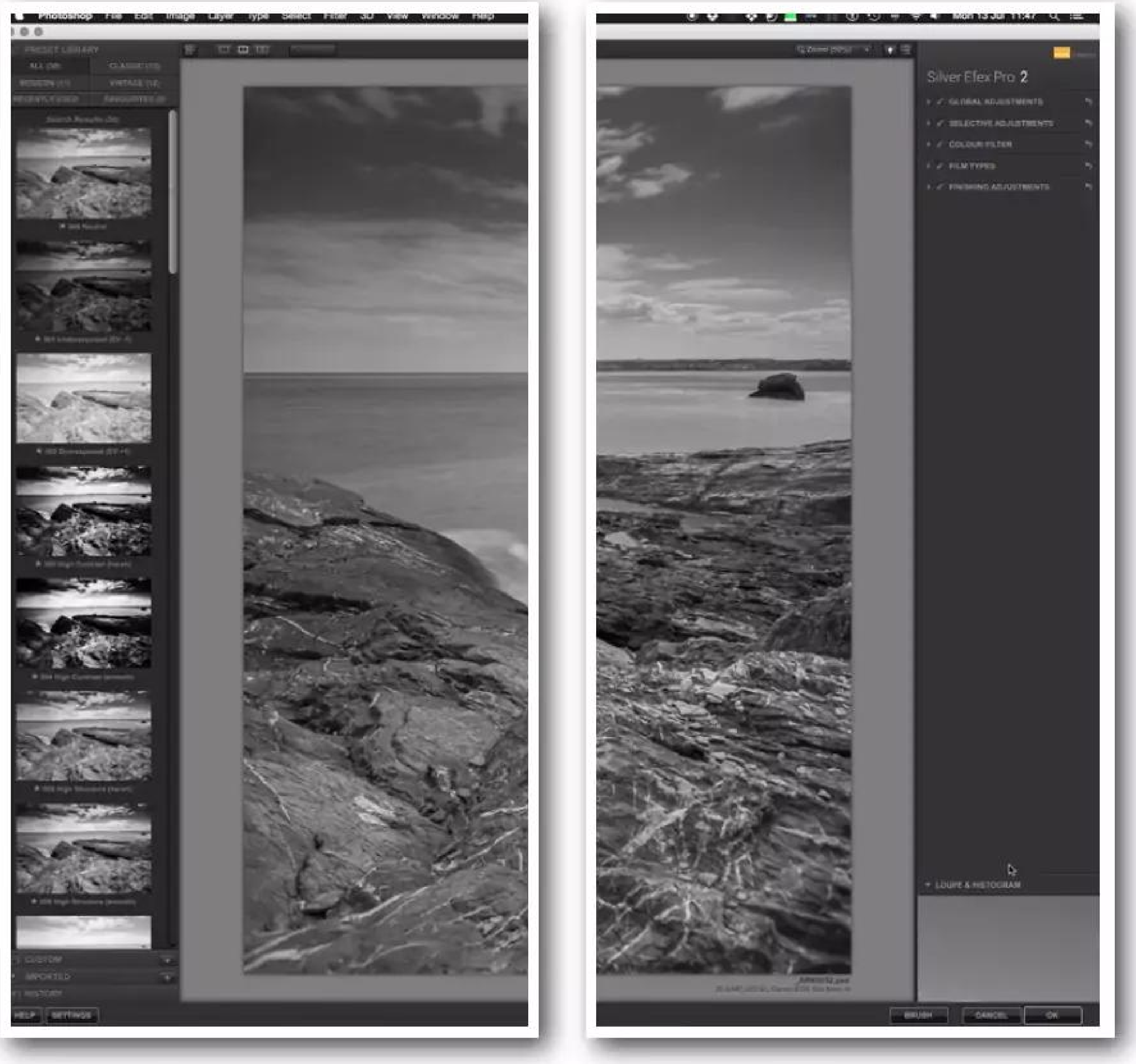


SILVER EFEX

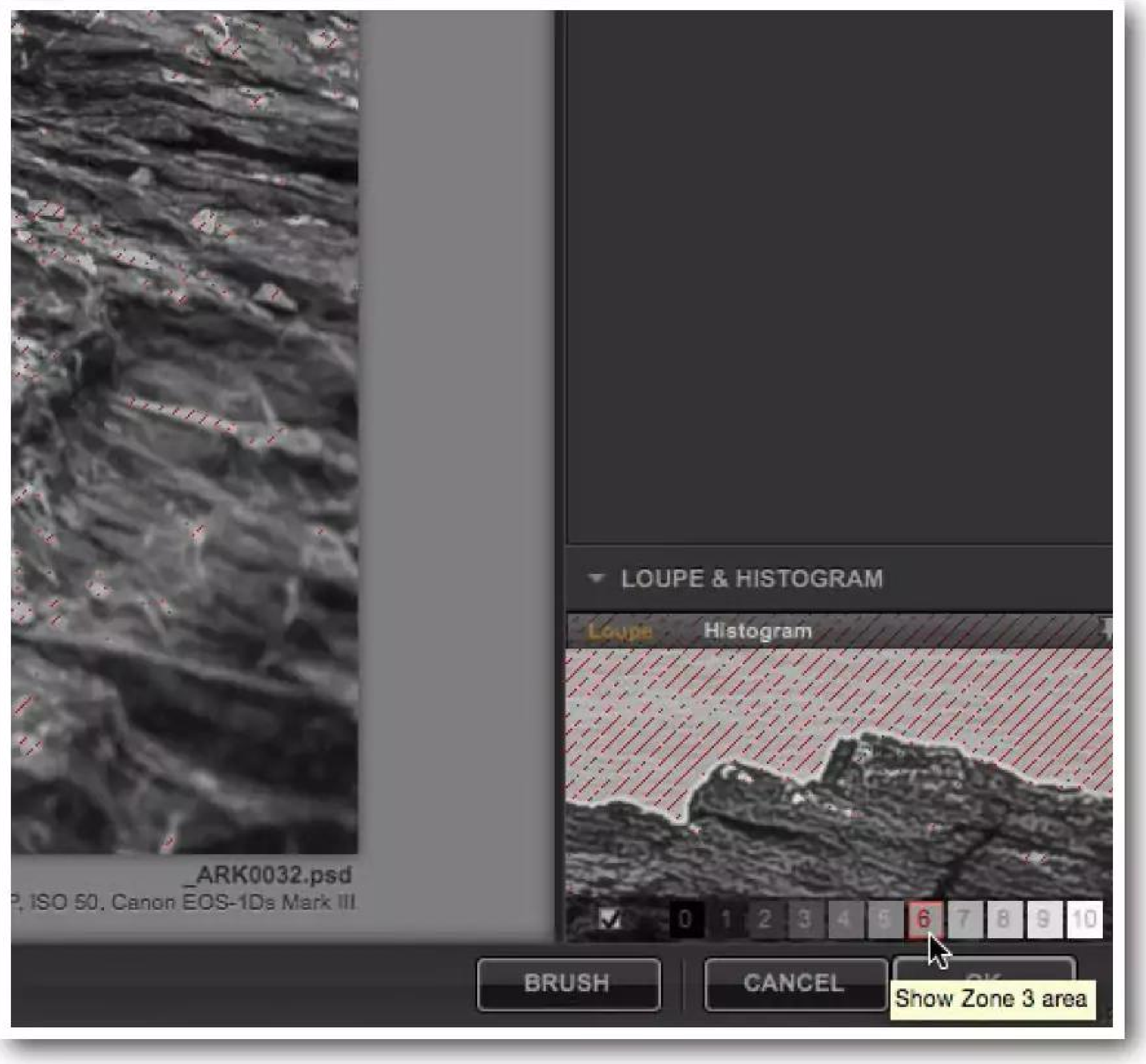
Convert to mono with Silver Efex Pro


Type
Select
Filter
3D
View
Window
Help
Last Filter ⌘F
Scrubby Zoom
Convert for Smart Filters
Print Size
Filter Gallery...
Adaptive Wide Angle... ⇧⌘A
Lens Correction... ⇧⌘R
Liquify... ⇧⌘X
Oil Paint...
Vanishing Point... ⌥⌘V
Blur
Distort
Noise
Pixelate
Render
Sharpen
Stylize
Video
Other
Digimarc
Flaming Pear
Neat Image
Nik Collection
Topaz Labs
Browse Filters Online...
Analog Efex Pro 2
Color Efex Pro 4
Dfine 2
HDR Efex Pro 2
Sharpener Pro 3: (1) RAW Presharpener
Sharpener Pro 3: (2) Output Sharpener
Silver Efex Pro 2
Viveza 2

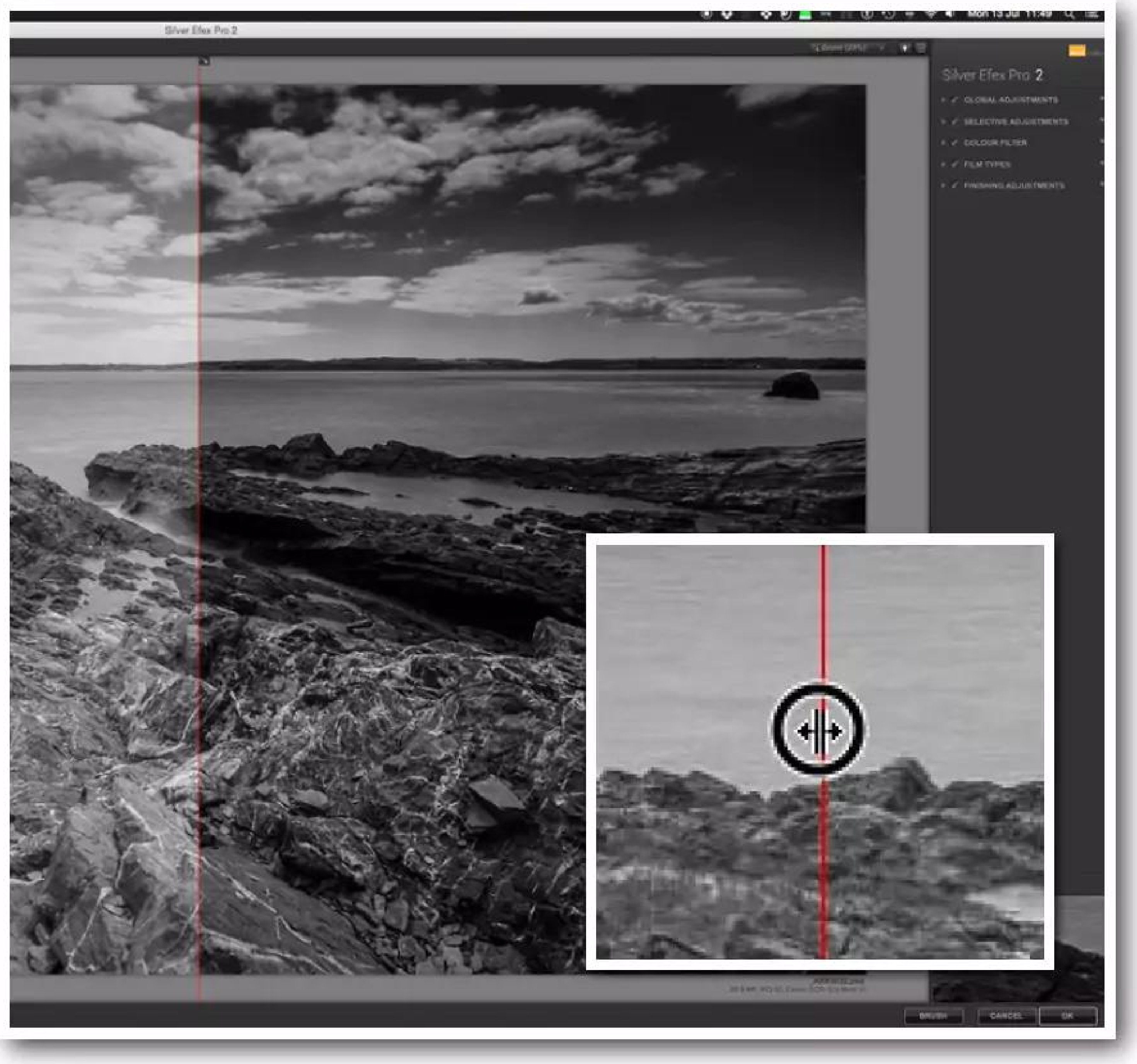
01 The first step is to have your image open, ready to convert to black and white. We are using the Photoshop plug-in version, so we can access the features by going to the top menu and selecting Filter > Nik Collection > Silver Efex Pro.


Silver Efex Pro 2

02 Silver Efex Pro will open and you will be presented with a window showing your image with the default conversion applied. On the left hand pane there are a series of presets, and on the right hand pane are the main adjustment controls.

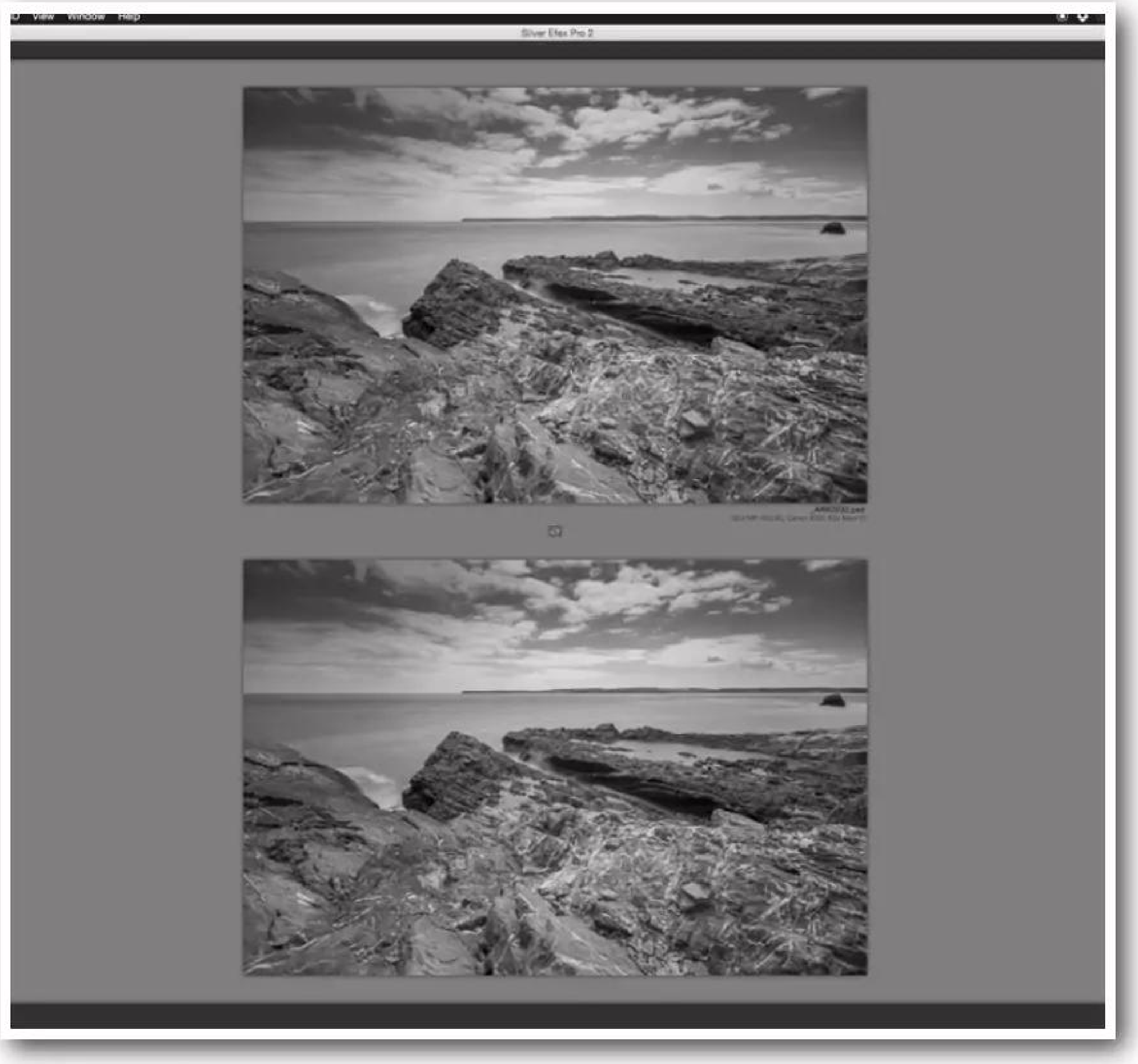

_ARK0032.psd
ISO 50, Canon EOS-1Ds Mark III
LOUPE & HISTOGRAM
Loupe
Histogram
0
1
2
3
4
5
6
7
8
9
10
BRUSH
CANCEL
Show Zone 3 area

03 Bottom-right of the window presents us with the Loupe and Histogram panel that uses the Zone System series of tonal values. Move your cursor over Zone 6, for instance, and those areas that match will be highlighted in your image.

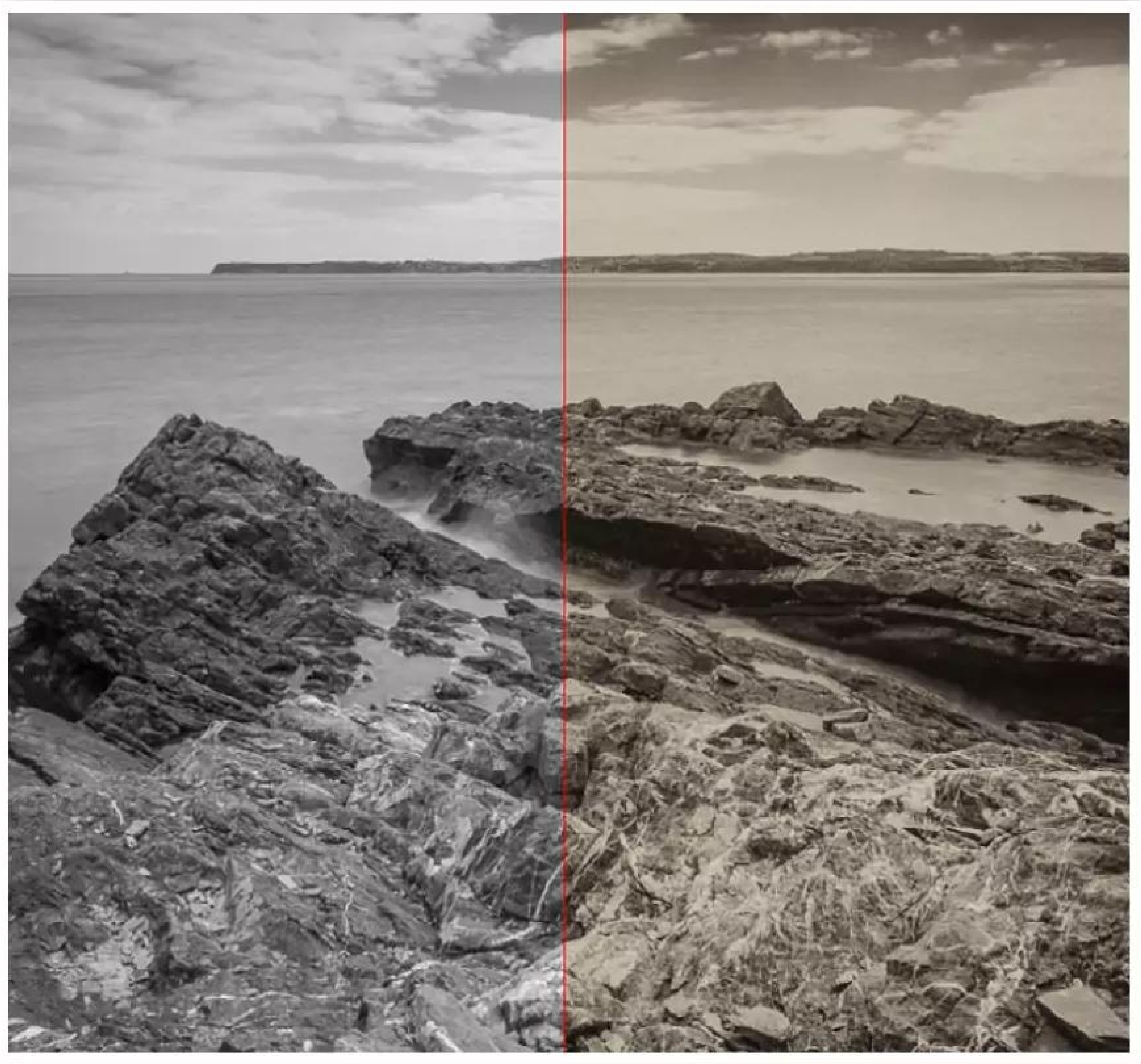

Silver Efex Pro 2

04 The screen can be split in half, either vertically or horizontally, so you can compare your conversion against the default to see the changes you are making and how they are affecting the image.

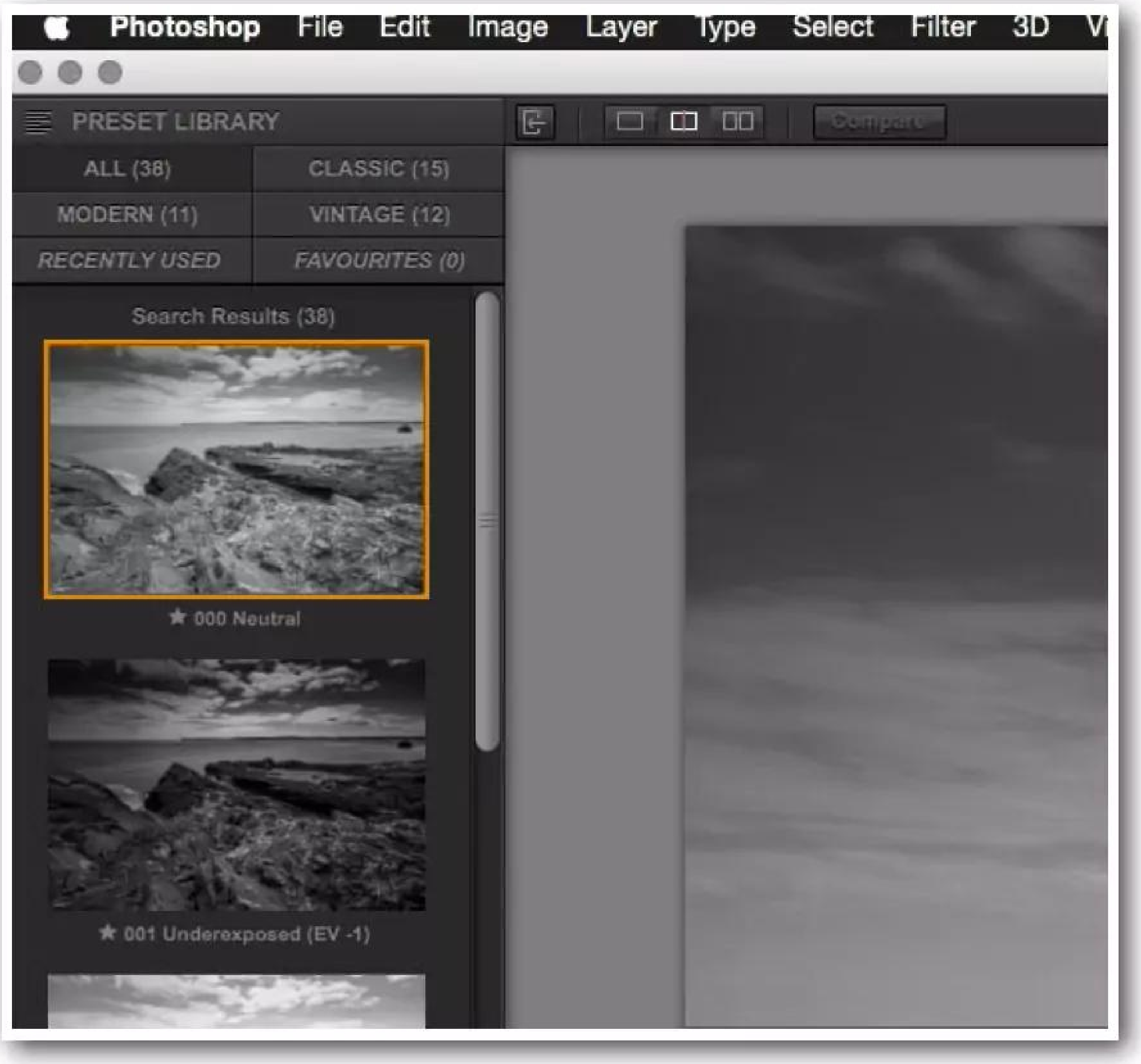
Silver Efex Pro 2
GLOBAL ADJUSTMENTS
Brightness
Highlights
Midtones
Shadows
Dynamic Brightness
Contrast
Amplify Whites
Preset: Default
Reds:
Yellows:
Greens:
Cyans:
Blues:
Magentas:
Auto
Adjustments
Styles
Black & White
Layers
Channels
Paths
Kind
Normal
Opacity:



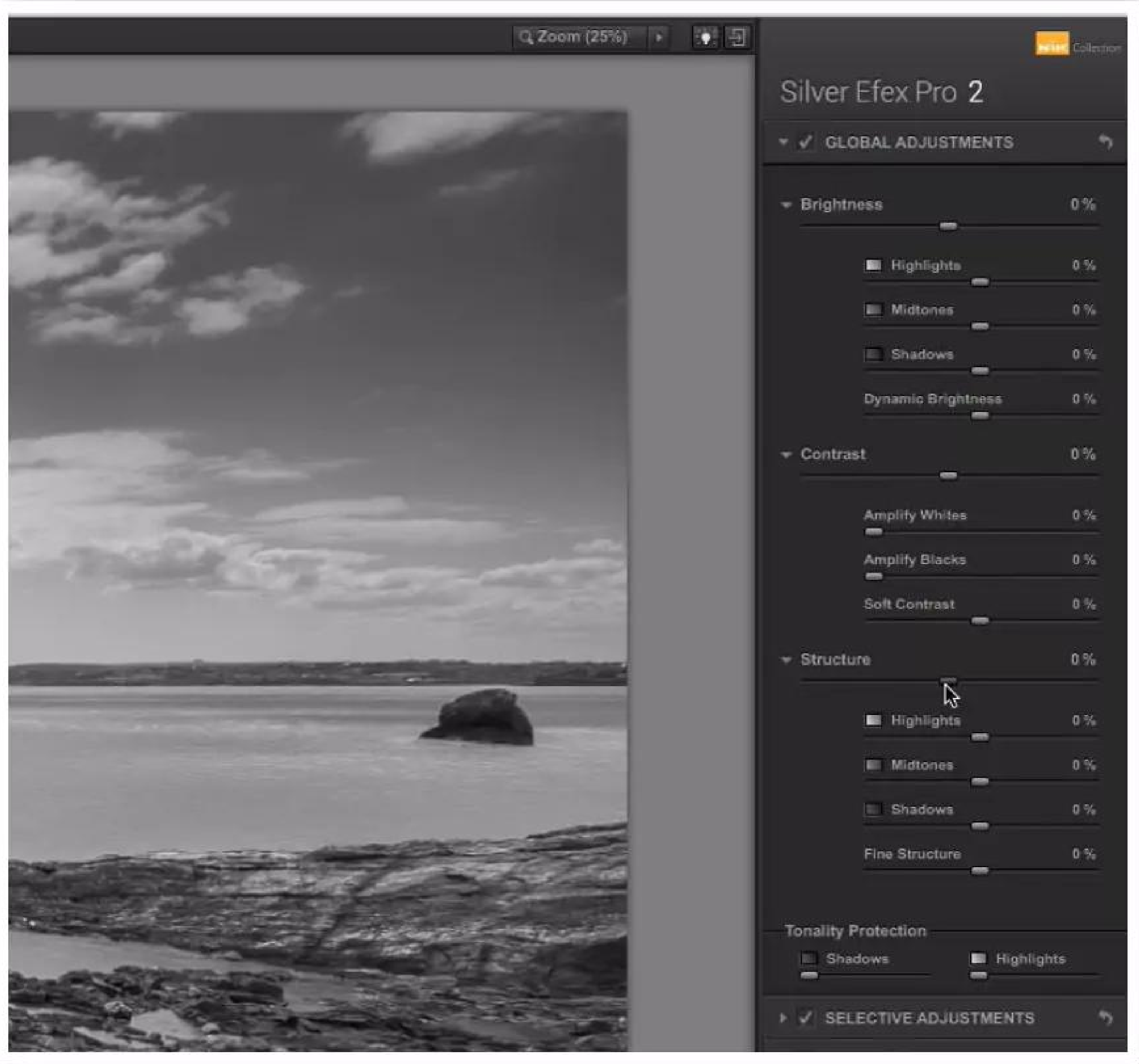
05 If you prefer, you can also preview two images side by side. The first will be the neutral default and the second will be your image showing any adjustments you have made.



06 Silver Efex Pro gives you a large number of preset adjustments that you can apply to your image in one click. They range from high or low contrast conversions, antiqued images including sepia tone, and even a pinhole camera effect.

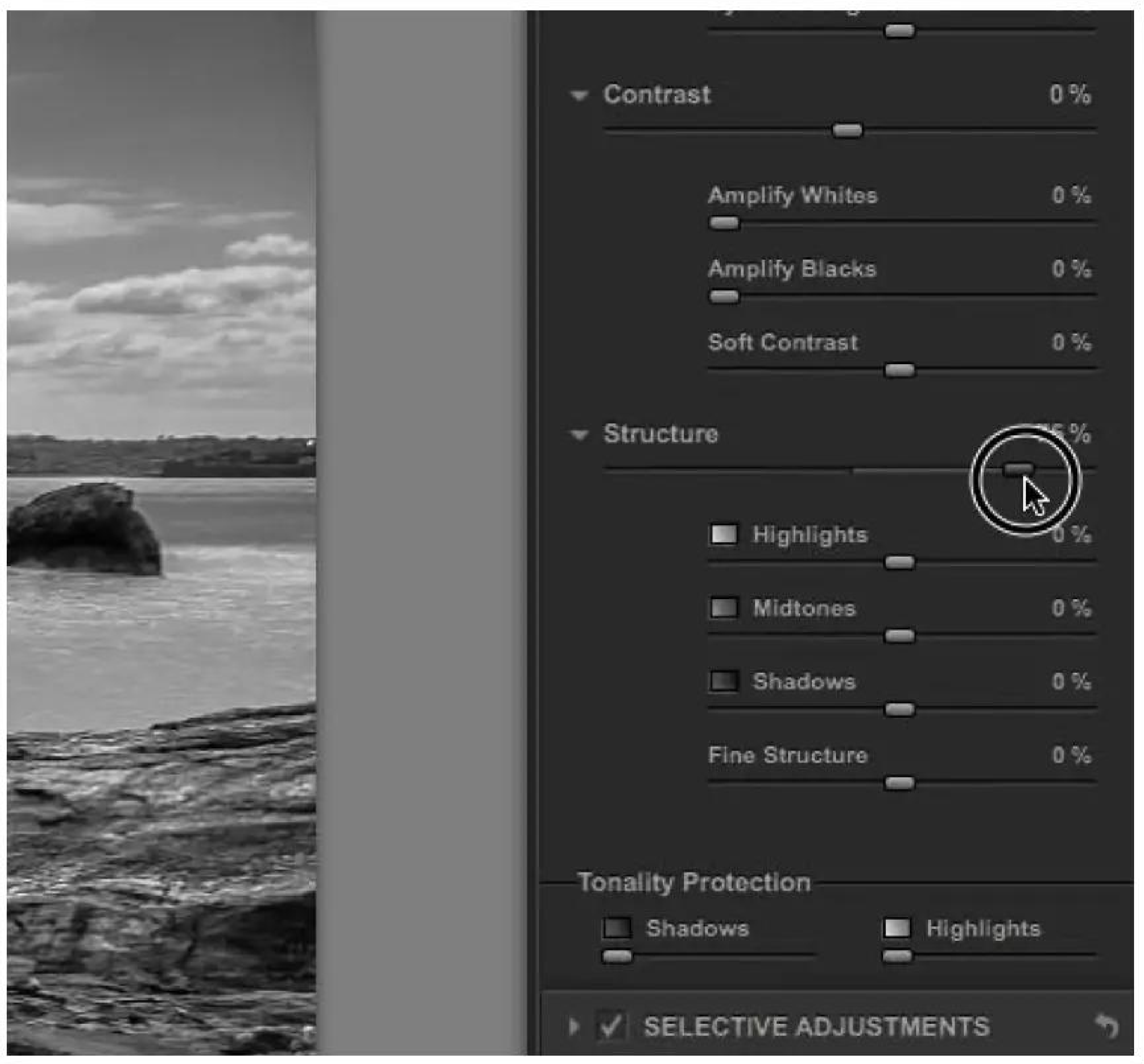

Photoshop
File
Edit
Image
Layer
Type
Select
Filter
3D
PRESET LIBRARY
ALL (38)
CLASSIC (15)
MODERN (11)
VINTAGE (12)
RECENTLY USED
FAVOURITES (0)
Search Results (38)
000 Neutral
001 Underexposed (EV -1)
Compare

07 Although these presets are useful and quick, most photographers would rather take their time and add adjustments themselves, manually. It is also a great way to learn the various parameters that are involved in turning colour to mono.


Zoom (25%)
Silver Efex Pro 2
GLOBAL ADJUSTMENTS
Brightness
Highlights
Midtones
Shadows
Dynamic Brightness
Contrast
Amplify Whites
Amplify Blacks
Soft Contrast
Structure
Highlights
Midtones
Shadows
Fine Structure
Tonality Protection
Shadows
Highlights
SELECTIVE ADJUSTMENTS

08 The first panel contains Global Adjustments. As the name suggests, these are adjustments added to the entire image. They fall under the categories of Brightness, Contrast, Structure and Tonality Protection.

Convert to mono with Silver Efex Pro



Contrast 0 %

Amplify Whites 0 %

Amplify Blacks 0 %

Soft Contrast 0 %

Structure

Highlights 0 %

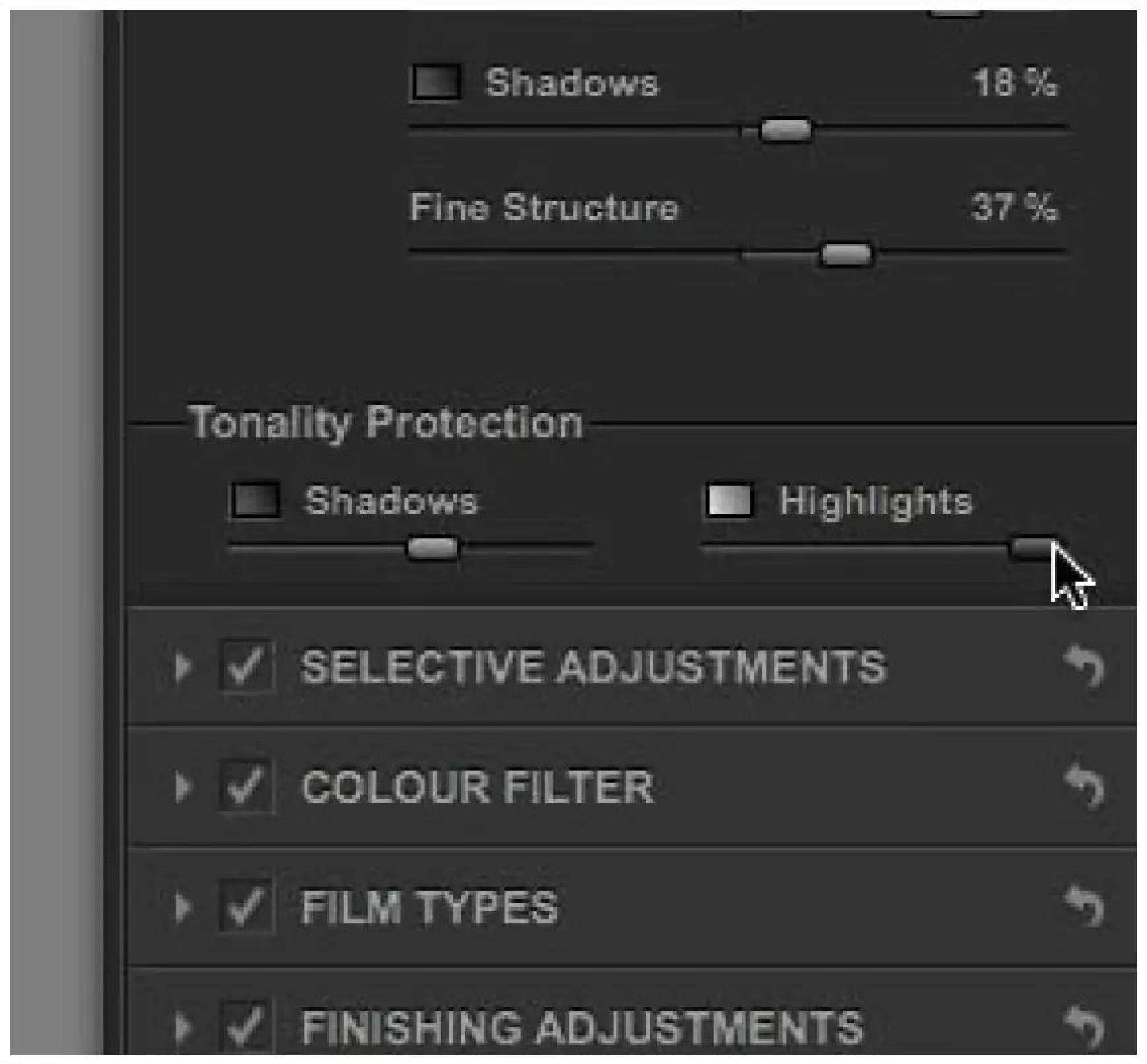
Midtones 0 %

Shadows 0 %

Fine Structure 0 %

Tonality Protection
Shadows
Highlights
SELECTIVE ADJUSTMENTS

09 The term 'Structure' may be new to a lot of users. In essence it is much like 'Clarity' in Raw processing software. It controls the application of micro contrast enhancement in the highlight, mid-tone and shadow areas of the image.



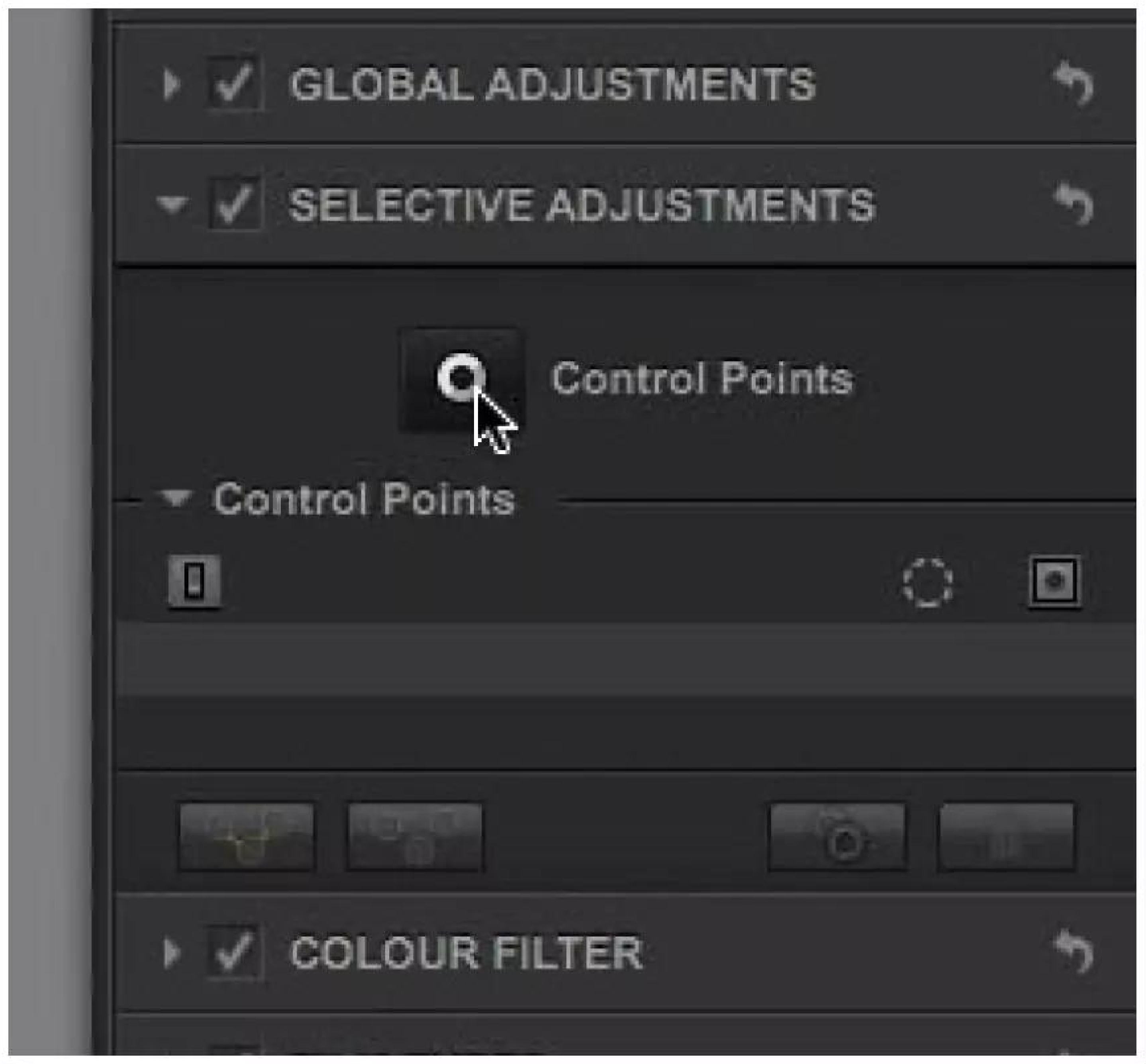
Shadows 18 %

Fine Structure 37 %

Tonality Protection
Shadows
Highlights
SELECTIVE ADJUSTMENTS
COLOUR FILTER
FILM TYPES
FINISHING ADJUSTMENTS

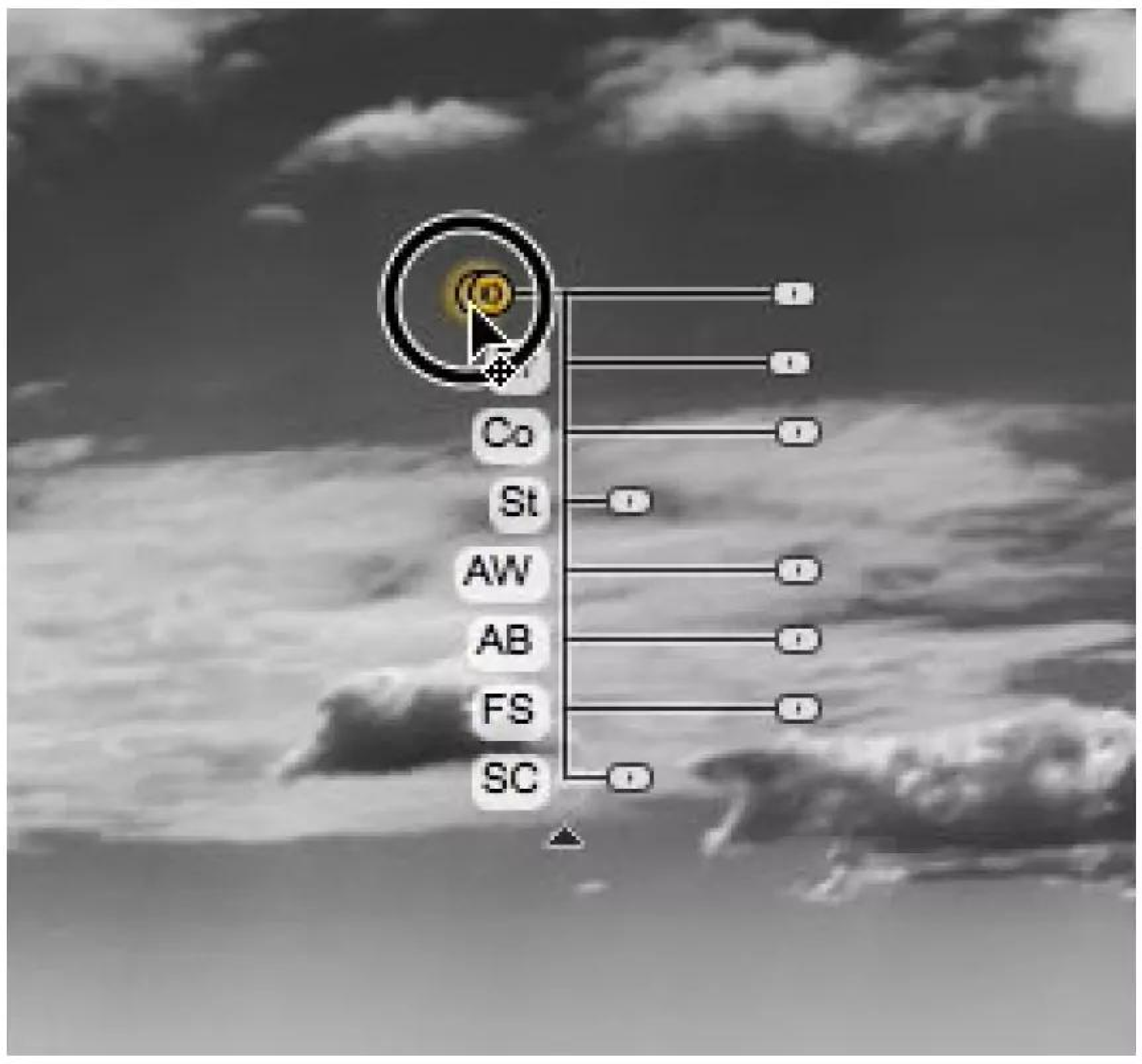
10 Tonality Protection in shadows and highlights means you can reduce the chances of an image going to solid black in shadow areas; or conversely, you can prevent highlights from blowing out to white and losing detail in those areas.

11 So, to begin, we have made various alterations to the Global Adjustments panel, including adding more Structure and Contrast to the overall image.

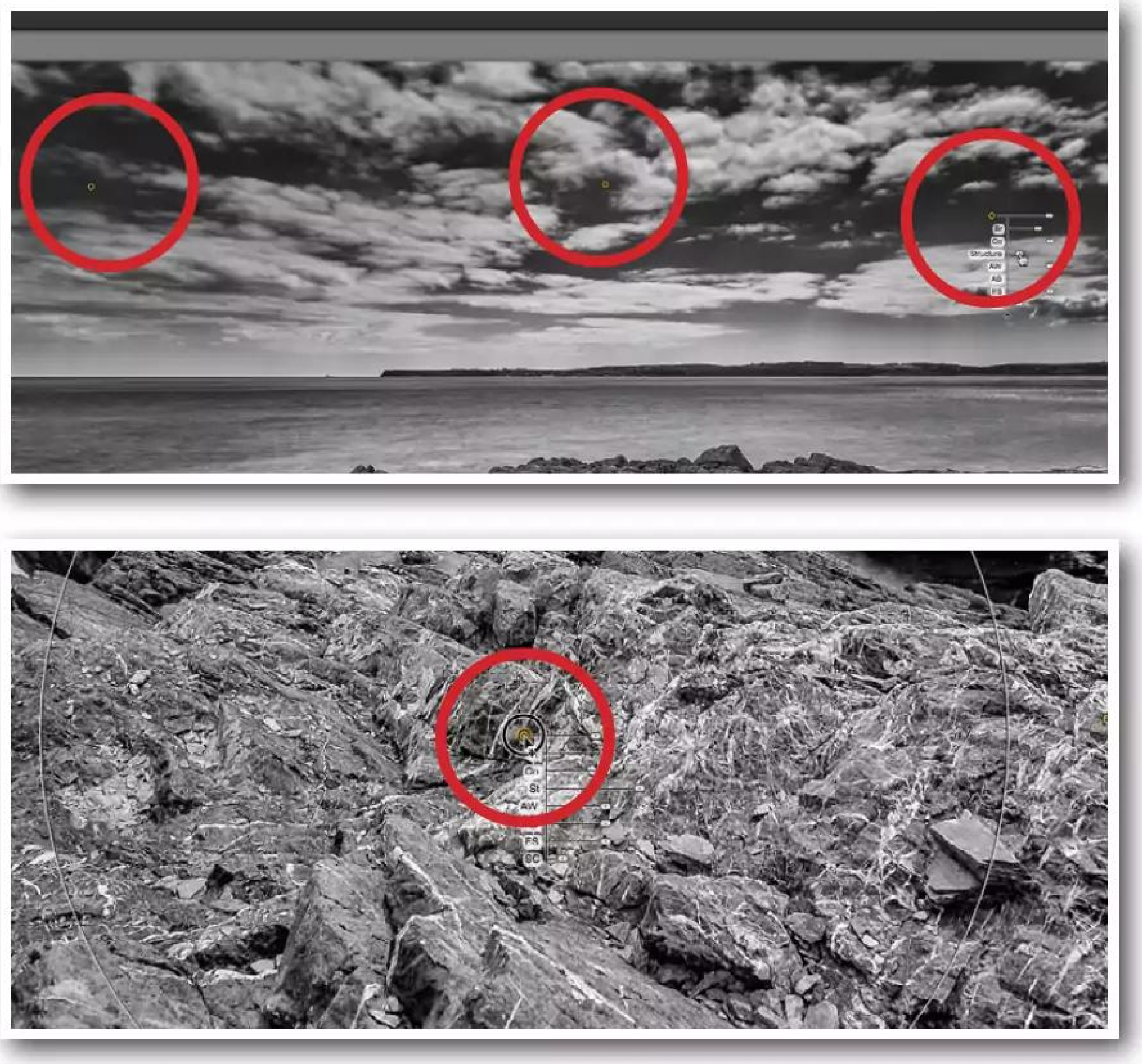


GLOBAL ADJUSTMENTS
SELECTIVE ADJUSTMENTS
Control Points
Control Points
COLOUR FILTER

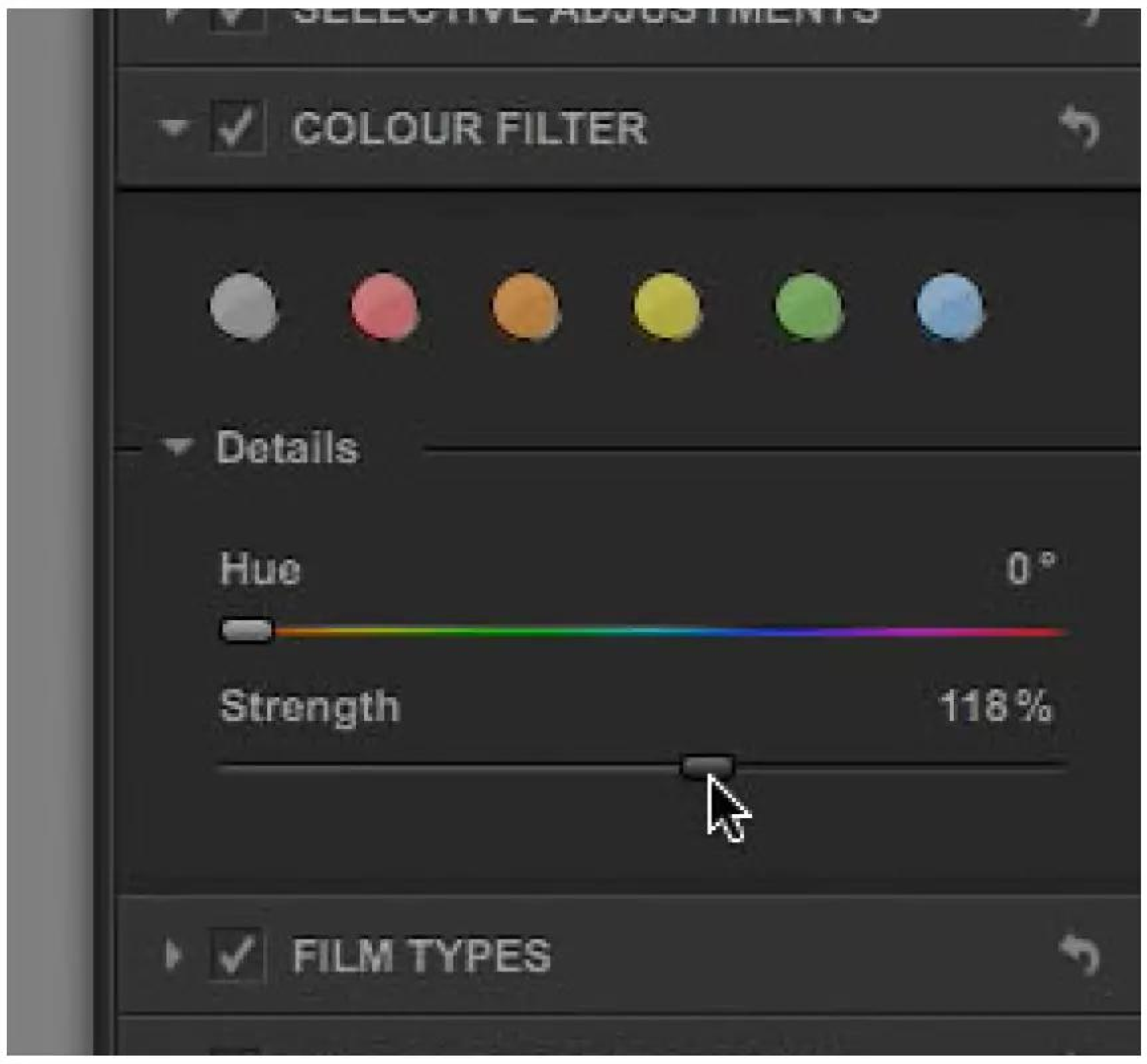
12 The next panel, Selective Adjustments, lets us do just that. Here you can add control points to your image and make adjustments within an effect radius that you can specify from each control point that you add.


Co
St
AW
AB
FS
SC

13 Each control point lets you adjust settings such as Brightness, Contrast and Structure, only taking effect within the radius you set. You can duplicate control points and fill specific areas of your shot without interfering with other areas.



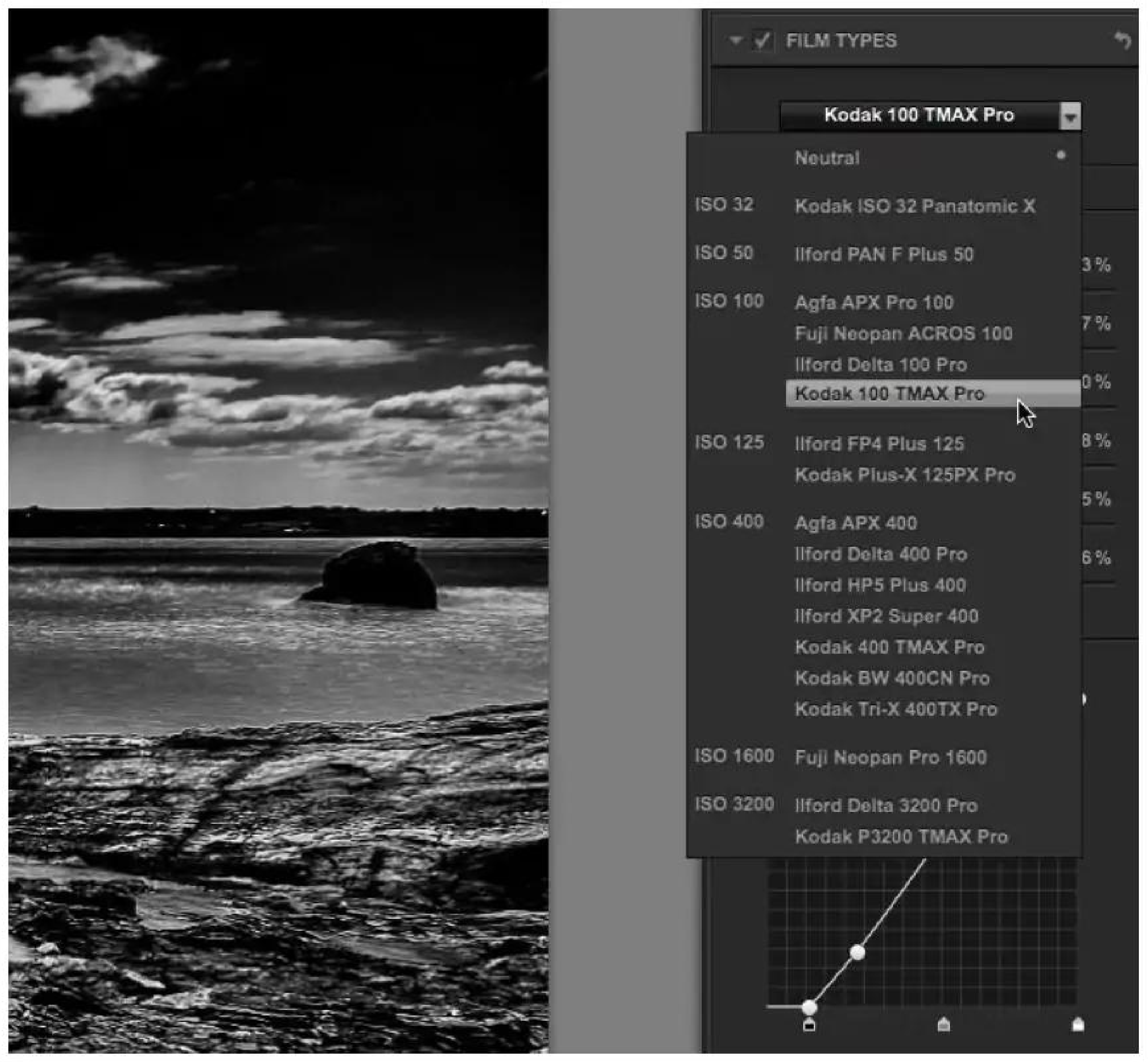
14 What we have done here is to set three control points in the sky to reduce Structure and darken the sky slightly. Down on the rocks we have added three control points to increase Structure and Contrast.


SELECTIVE ADJUSTMENTS
COLOUR FILTER
Details
FILM TYPES

Hue 0 °

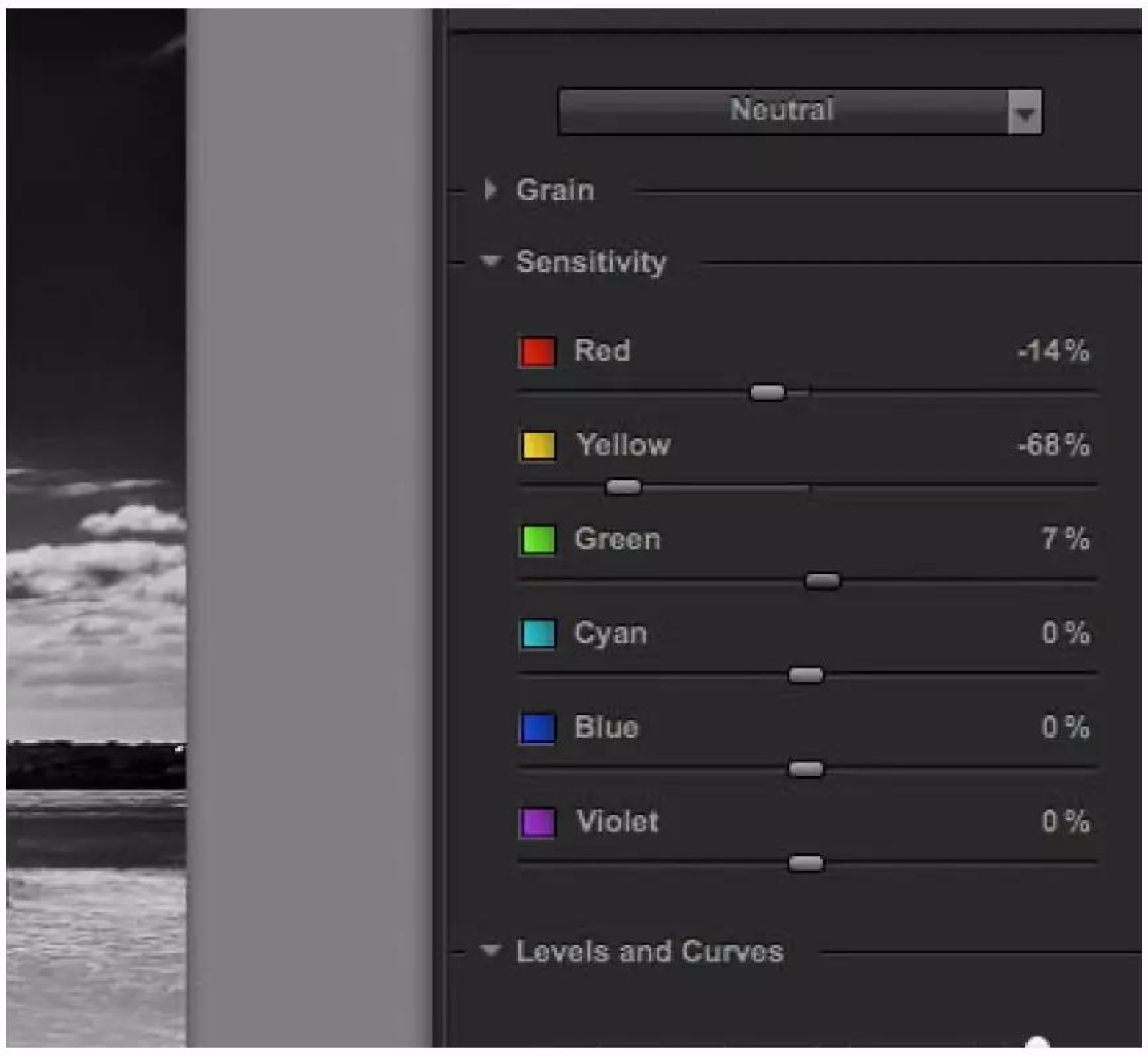
Strength 118 %

15 Next is the Colour Filter panel. You can simulate the effect of putting a colour filter over your camera lens when you were originally shooting the image. A red filter, for example, will make any red hues in the shot appear lighter.


FILM TYPES
Kodak 100 TMAX Pro
Neutral
ISO 32 Kodak ISO 32 Panatomic X
ISO 50 Ilford PAN F Plus 50
ISO 100 Agfa APX Pro 100
Fuji Neopan ACROS 100
Ilford Delta 100 Pro
Kodak 100 TMAX Pro
ISO 125 Ilford FP4 Plus 125
Kodak Plus-X 125PX Pro
ISO 400 Agfa APX 400
Ilford Delta 400 Pro
Ilford HP5 Plus 400
Ilford XP2 Super 400
Kodak 400 TMAX Pro
Kodak BW 400CN Pro
Kodak Tri-X 400TX Pro
ISO 1600 Fuji Neopan Pro 1600
ISO 3200 Ilford Delta 3200 Pro
Kodak P3200 TMAX Pro

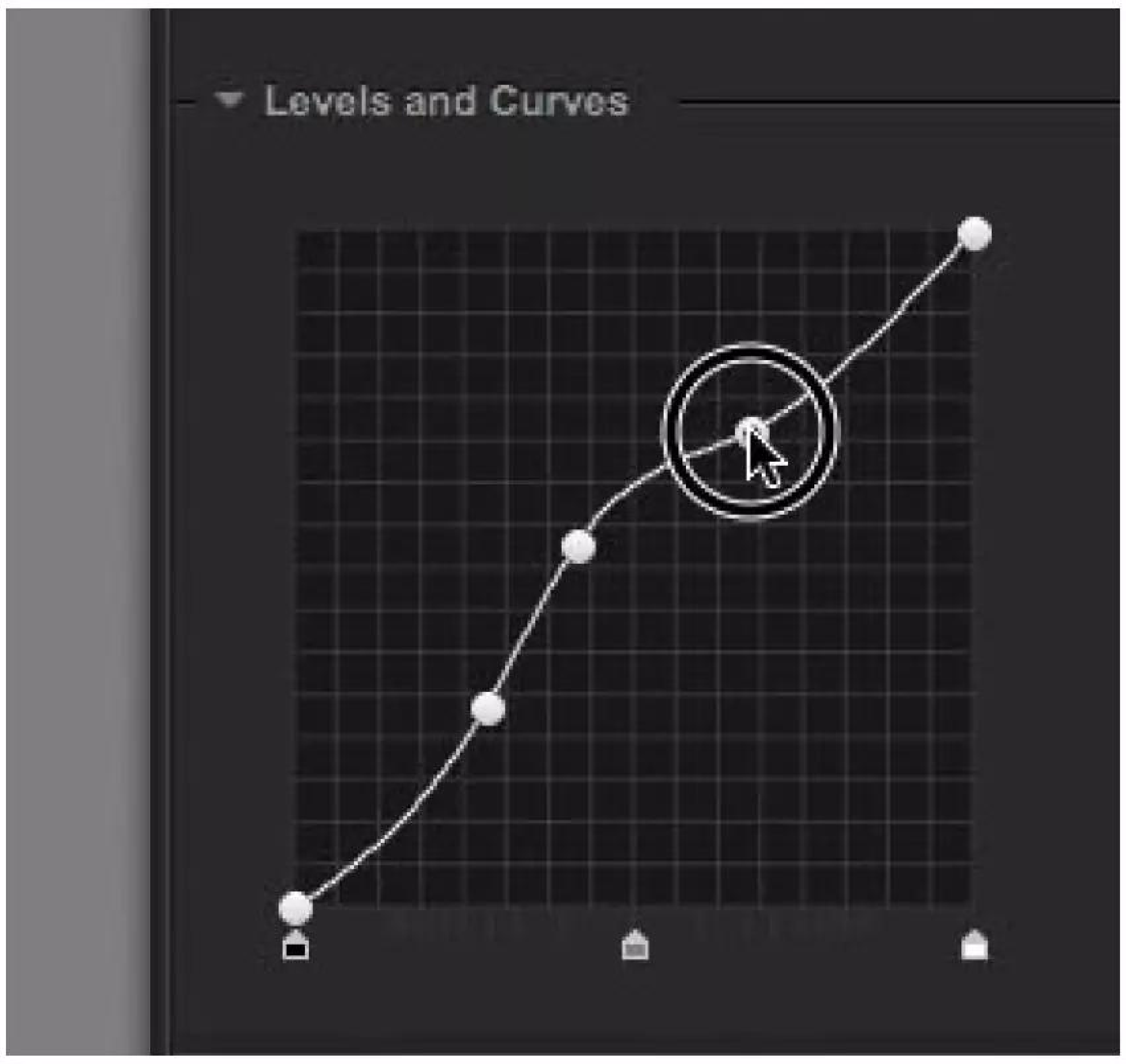
16 Below that is the Film Types panel. Here you can select a preset film type that simulates what the shot would have looked like if you had shot it with a particular type of black and white film such as Kodak 100TMAX Pro.

Convert to mono with Silver Efex Pro

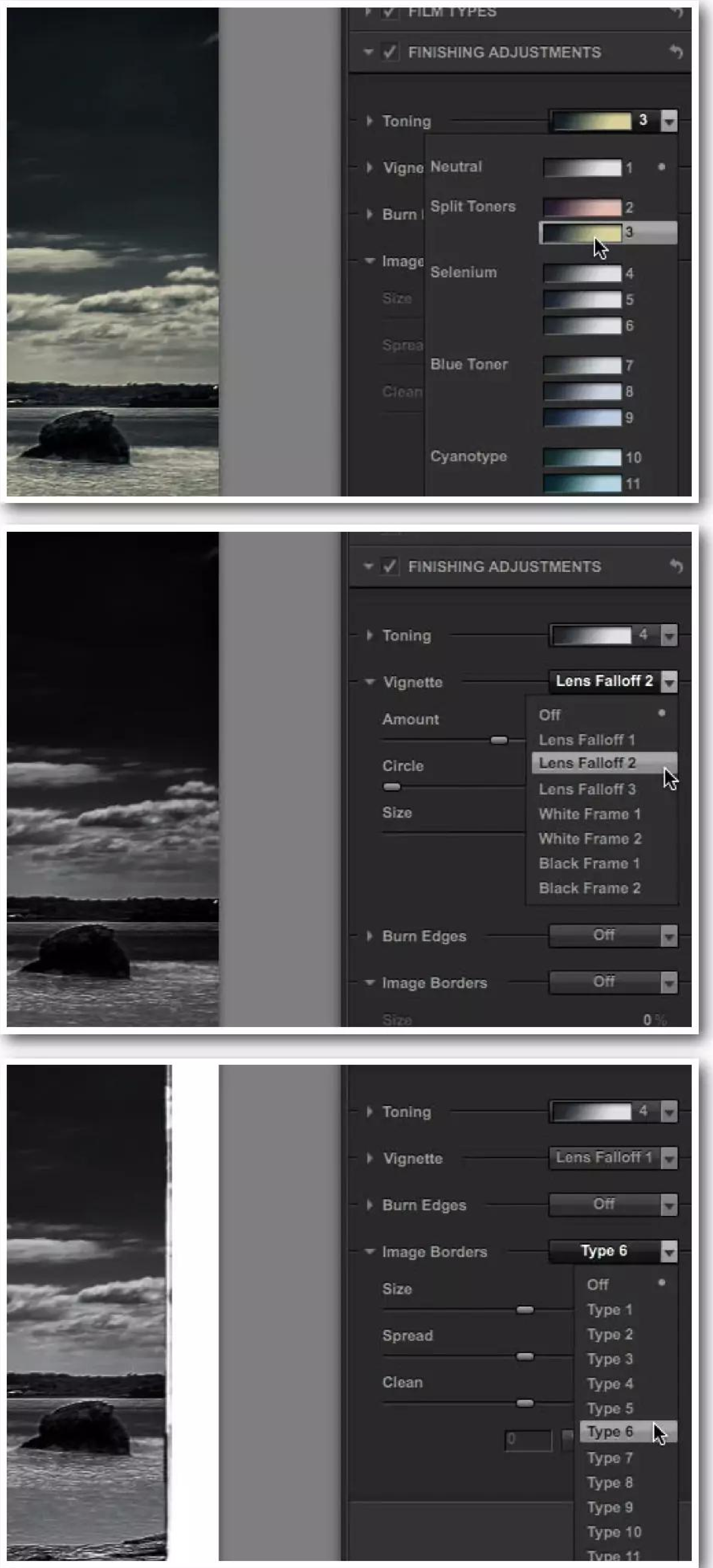

Neutral
Grain
Sensitivity
Levels and Curves

Red -14%
Yellow -68%
Green 7%
Cyan 0%
Blue 0%
Violet 0%

17 You can also adjust the sensitivity of the film type to certain colours by adjusting the colour sliders. For example, adjusting Red sensitivity will make anything in the red end of the spectrum lighter or darker accordingly.


Levels and Curves

18 Lastly in this panel are the Levels and Curves adjustments which behave just like their counterparts in Photoshop.


FILM TYPES
FINISHING ADJUSTMENTS
Vigne
Burn
Image
Size
Sprea
Clean
Neutral 1
Split Toners 2 3
Selenium 4 5 6
Blue Toner 7 8 9
Cyanotype 10 11
Amount
Circle
Size
Off
Lens Falloff 1
Lens Falloff 2
Lens Falloff 3
White Frame 1
White Frame 2
Black Frame 1
Black Frame 2
Size
Spread
Clean
Off
Type 1
Type 2
Type 3
Type 4
Type 5
Type 6
Type 7
Type 8
Type 9
Type 10
Type 11

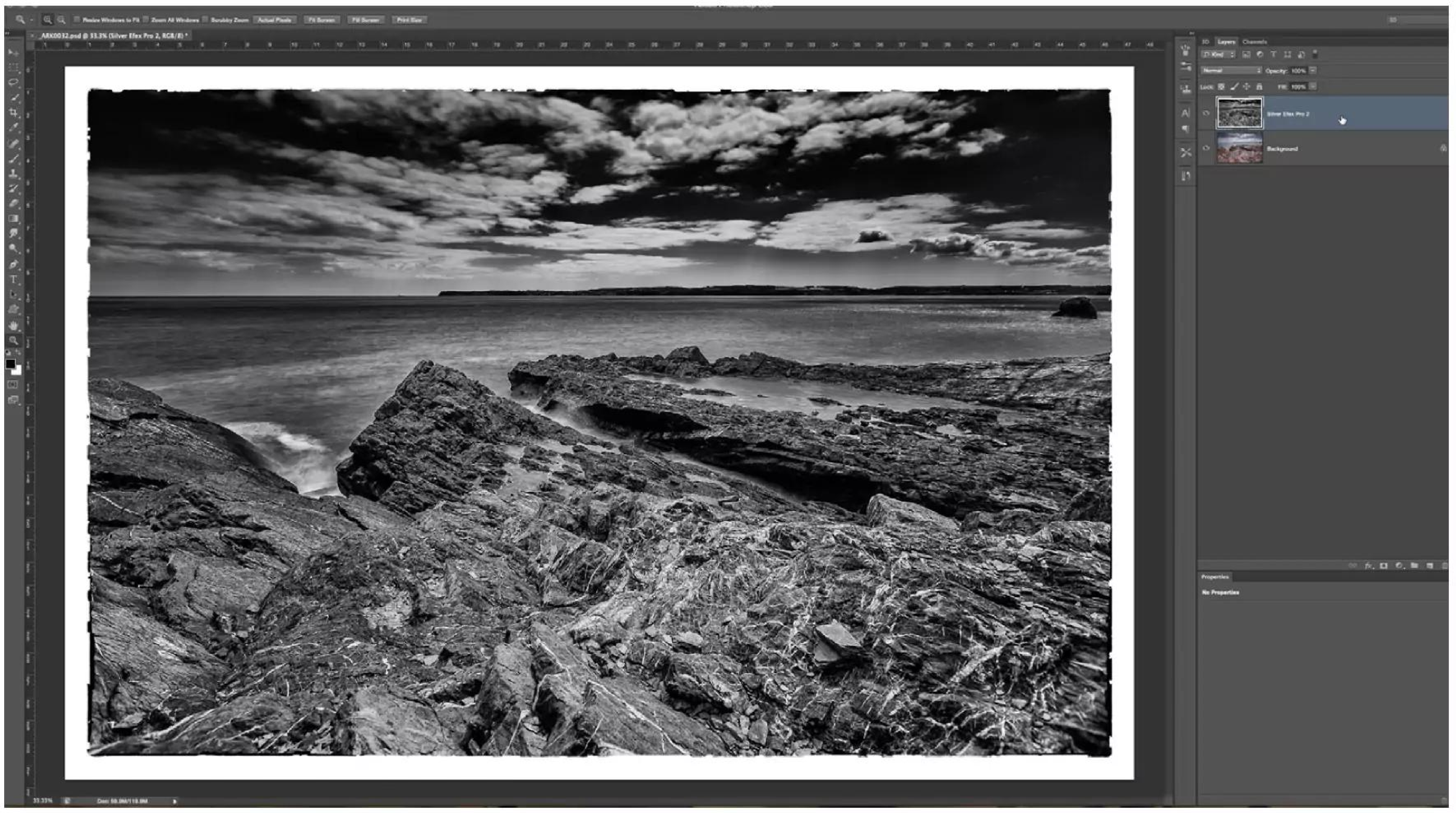
Toning 3

Toning 4
Vignette Lens Falloff 2
Burn Edges Off
Image Borders Off
Size 0%

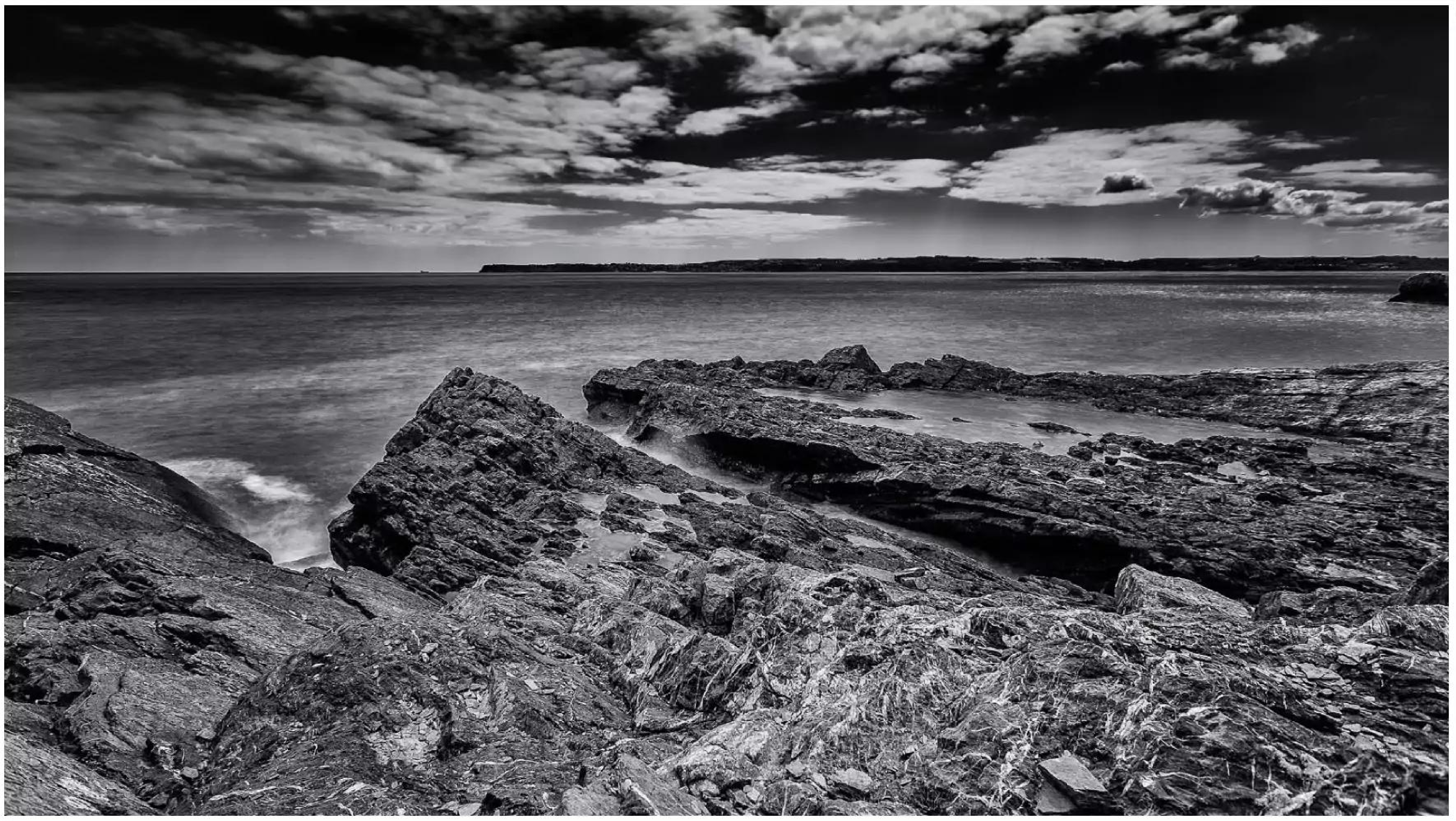
Toning 4
Vignette Lens Falloff 1
Burn Edges Off
Image Borders Type 6

19 Now we come to the Finishing Adjustments panel. Here you can apply Toning effects from a drop-down list, as well as applying a Vignette, Burn Edges and Image Borders effect. Manual options are available for these effects too.

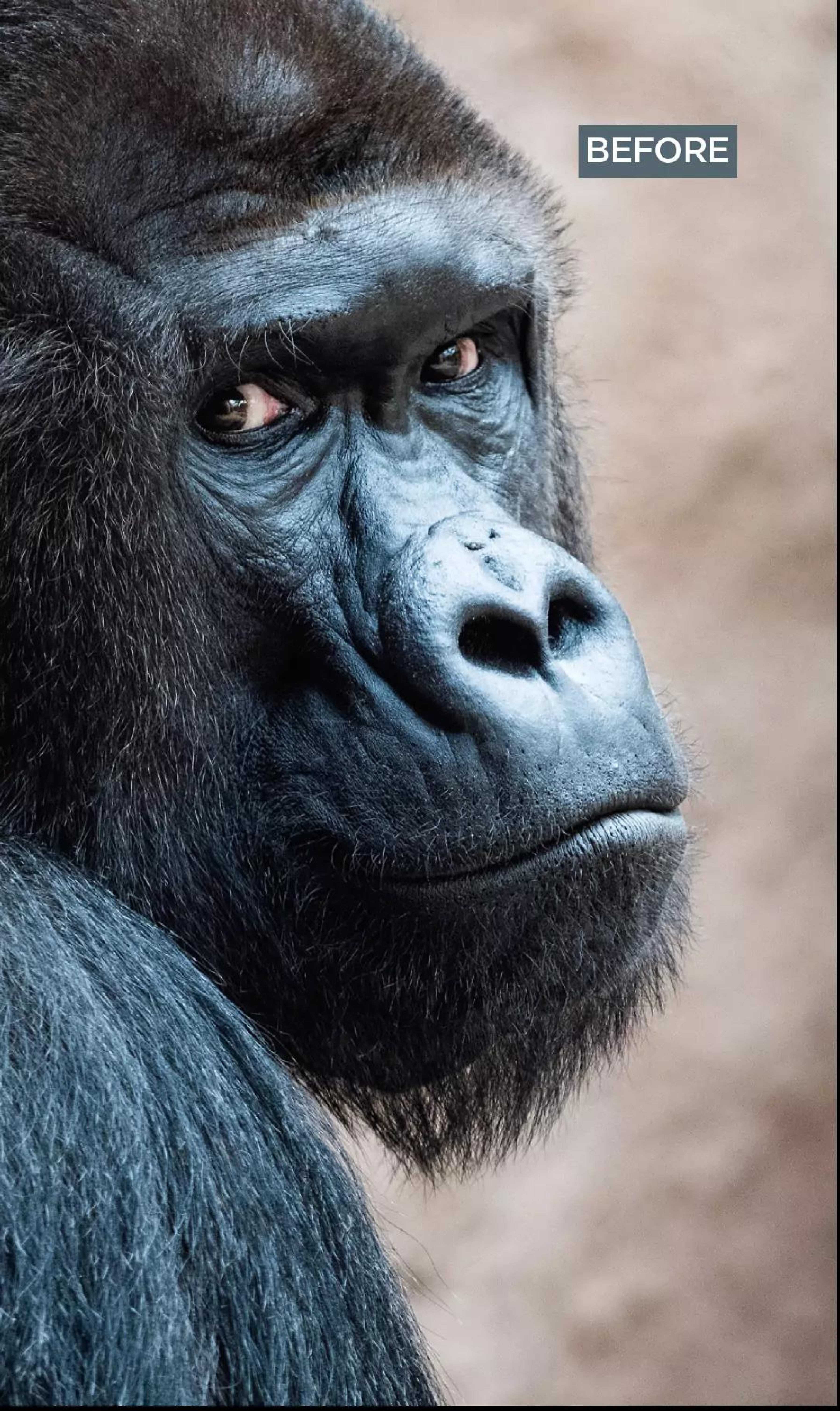
Silver Efex Pro 2
GLOBAL ADJUSTMENTS
Brightness
Highlights
Midtones
Shadows
Dynamic Brightness
Contrast
Amplify Whites
Preset: Default
Reds:
Yellows:
Greens:
Cyans:
Blues:
Magentas:
Adjustments
Styles
Black & White
Layers
Channels
Paths
Kind
Normal
Opacity:

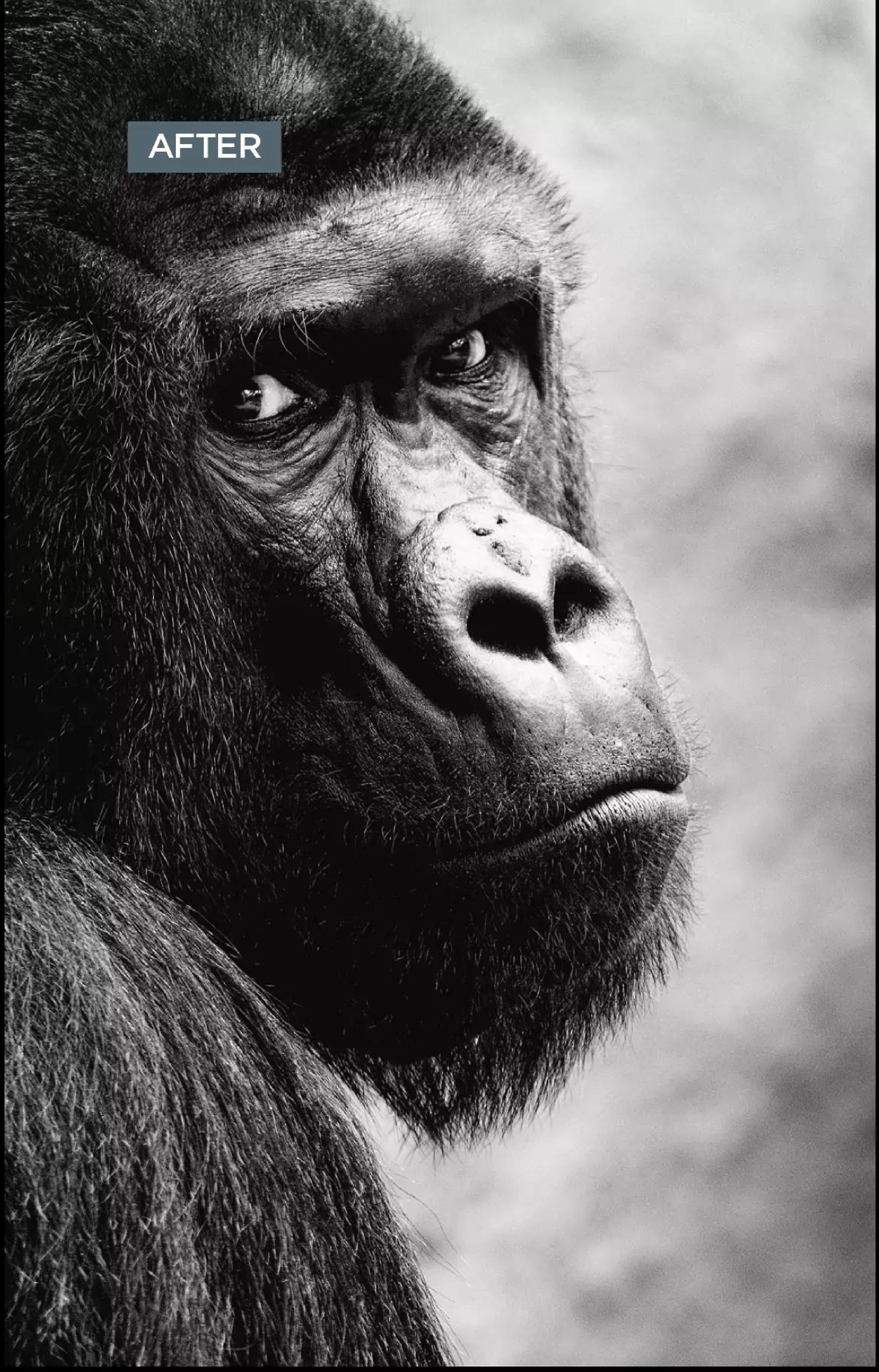


20 So now, when we have the image as we want it, we simply click on OK in the bottom right of the window and all the adjustments will be added to the image. Silver Efex Pro will then create a new layer with all your adjustments in place.

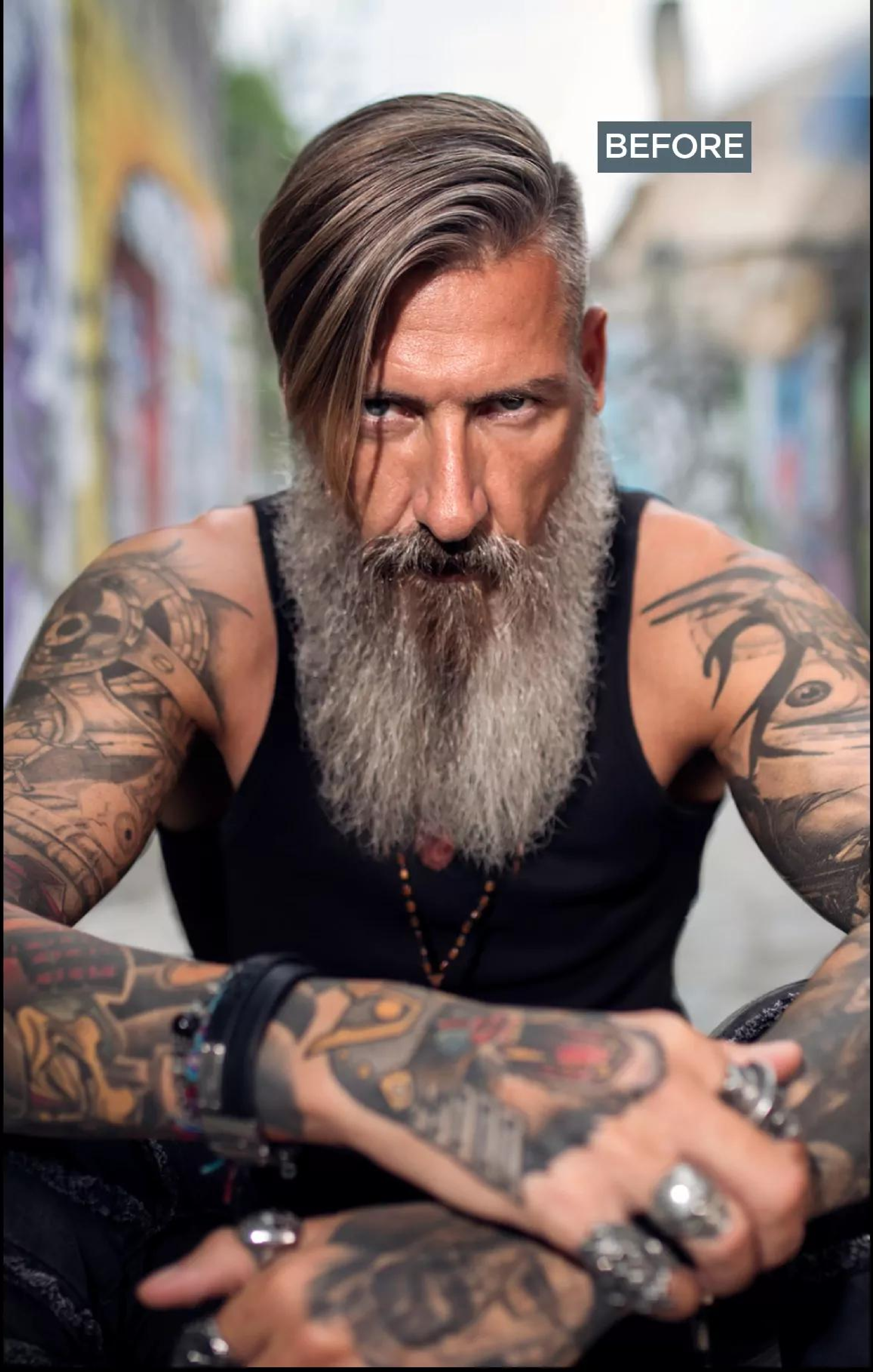


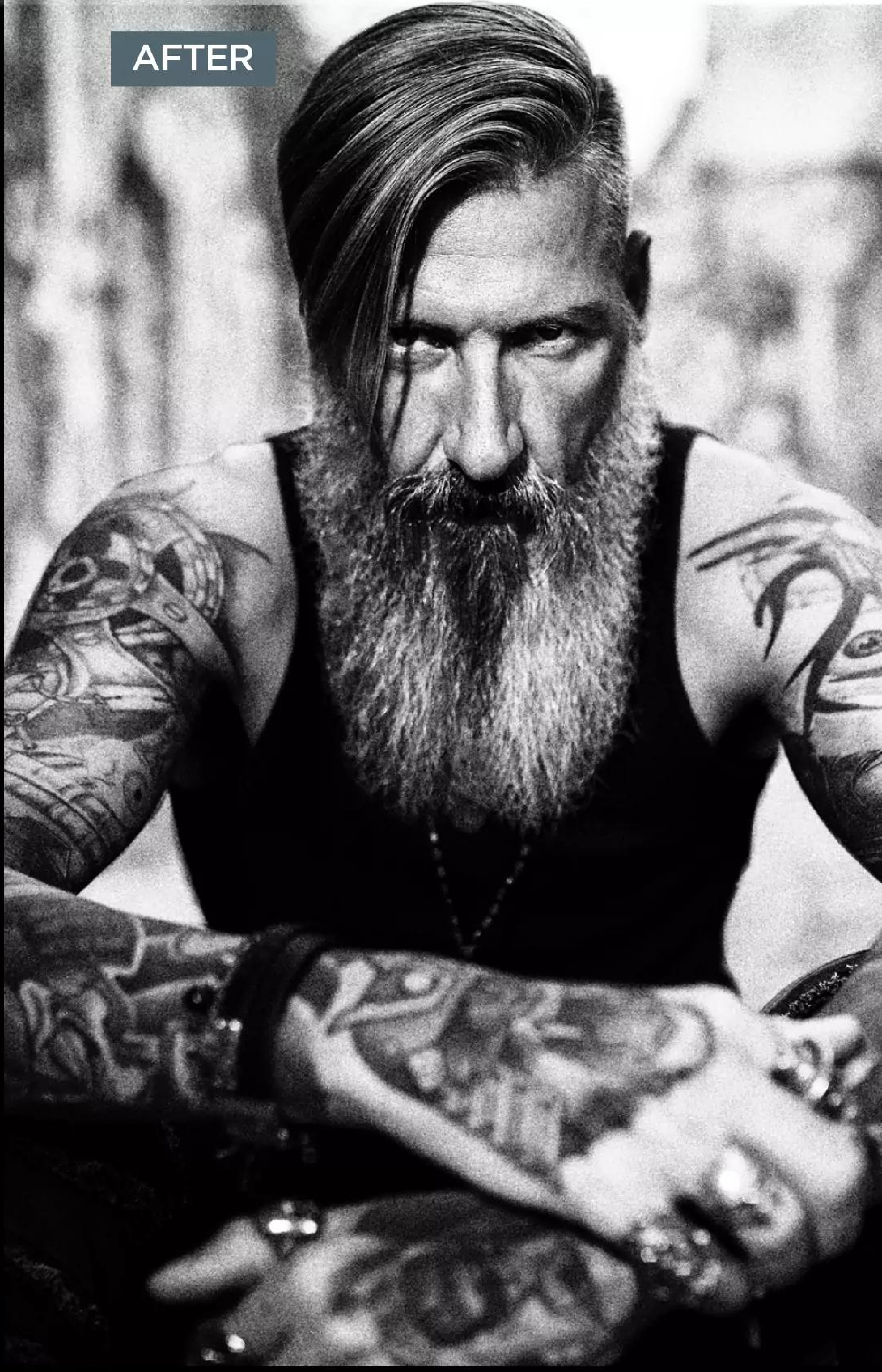
21 There is your completed image. Silver Efex Pro offers unparalleled control of your mono conversion and is highly recommended for anyone serious about black and white photography.

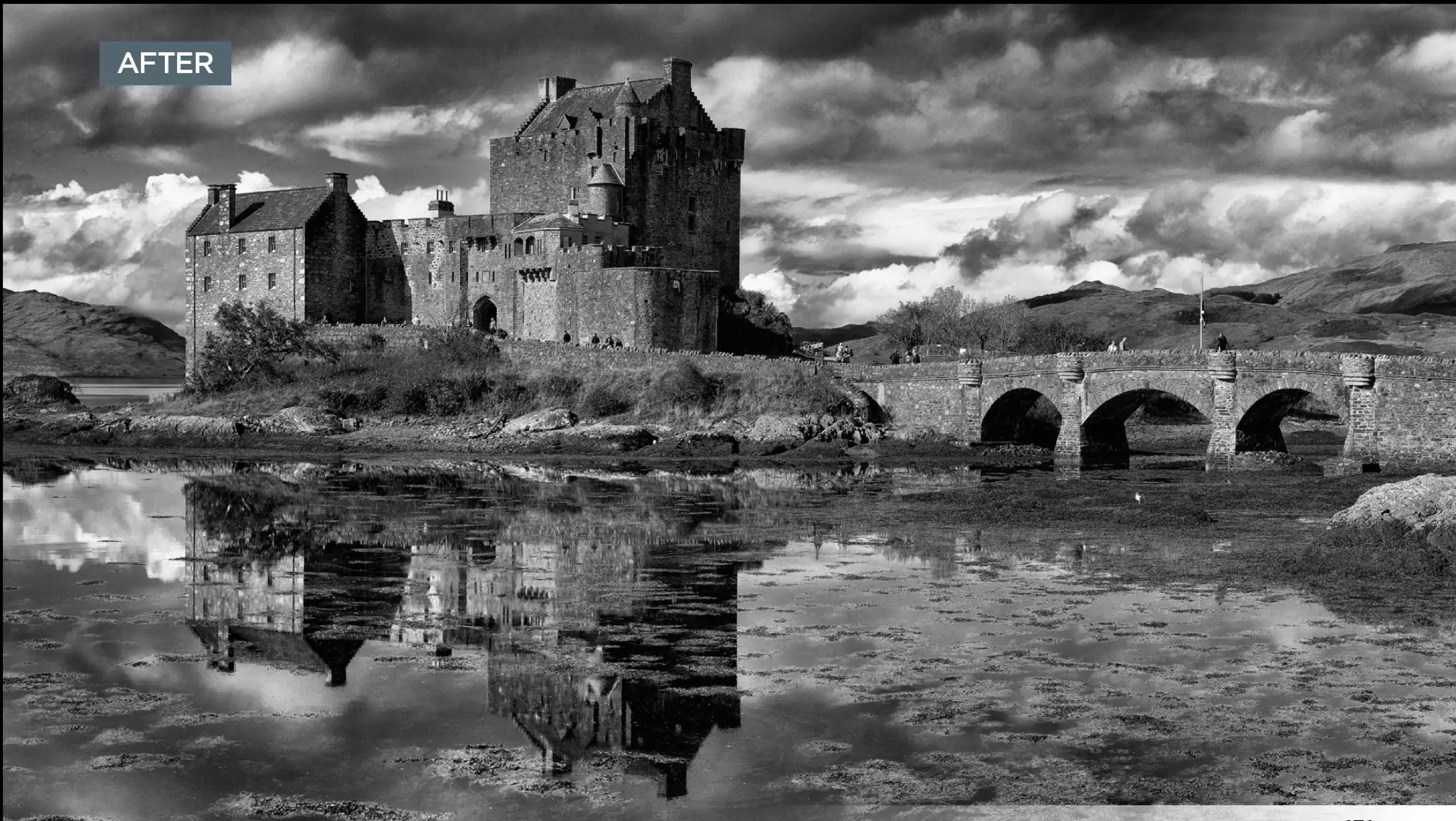

BEFORE


AFTER

BEFORE


BEFORE


AFTER


AFTER

PRINTING YOUR PHOTOGRAPHS

PRINTING YOUR PHOTOGRAPHS IS STILL THE BEST WAY TO SHARE THEM

With the huge popularity of digital photography, more and more people are taking more and more photographs. In fact there are more photos being taken today than ever before.

However, most of those photos will never be seen by anyone except the person who took them, because hardly anyone prints their photos anymore. This is very odd, because many people have home computers with photo-quality printers that are more than capable of producing first-class prints from almost any digital photograph. Printers are ludicrously cheap, to the point that when your printer runs out of ink it's almost cheaper to throw it away and buy a new one than it is to buy more ink.

In this section we'll also take a look at the resurgence in black and white film photography. Developing and printing your own film photographs is easy, fun and rewarding. We'll show you how to build your own darkroom, what to put in it, and how to develop and print black and white photos. ■

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140 DARKROOM EQUIPMENT

142 DEVELOPING BLACK AND WHITE FILM

144 MAKING BLACK AND WHITE PRINTS

Inkjet and dye-sub printers

A GUIDE TO THE MOST COMMON TYPES OF HOME PHOTO PRINTER

Home photo printing from digital images is a cheap and easy way to share and display your photographs. Let's take a look at the two main types of home photo printer.

There are two main types of photo printer in common home use. By far the most common is the inkjet printer, which includes most of the models from most of the major manufacturers, including Epson, Canon, Lexmark and Hewlett Packard. They operate on a fairly simple principle. The printer has a head which moves rapidly over the surface of the paper. In this head are a number of tiny nozzles, through which minute droplets of ink are forced, spraying onto the paper in small but precisely measured quantities, as many as 30,000 droplets per second. The actual method by which the ink is forced out of the nozzles varies from one manufacturer to another: Canon, HP and Lexmark favour a thermal system which boils the ink at the print head, using the bursting bubbles to spray the ink (hence Canon's BubbleJet name); while Epson uses a more complex and expensive but also more versatile piezo-electric compression system.

Usually when printing a photo it will take several passes of the head over each line to build up the full colour image one colour at a time, which means that photo printing is much slower than printing a text document, and also uses a lot more ink.

While some older printers use one ink cartridge for black (primarily for text printing) and another for three additive primary colours, some newer models use multiple colour cartridges, in some cases as many as eight. This has two main advantages. The addition of lighter shades such as grey, light magenta and light yellow means that the printer is better at reproducing subtler colour variations, especially in skin tones, and is also better at reproducing shadow and highlight detail. The other advantage is that if one colour runs out you don't have to throw away a cartridge that might still have plenty of the other colours. You just replace the one that's empty. This is a lot less wasteful, and also works out cheaper in the long run.

Epson has recently introduced a line of home inkjet printers that do away with cartridges altogether. Instead they use tanks of liquid ink, which can be refilled from storage bottles. Epson claims that this Eco Tank system produces the lowest cost per print of any current printer, and the flagship ET-1400 A3+ printer ships with a year's supply of ink, enough for 5,700 A3-sized colour photo prints.

The other main format of home printer is the dye-sublimation type, often shortened to "dye-sub". This technology is popular for smaller dedicated photo printers, such as Canon's Selphy range of desktop-sized photo printers. Most print out at sizes no larger than 6 x 4 inches, producing postcard-sized prints.

Dye-sub printers work in a completely different way to inkjets. They use a ribbon carrying coloured panels of special dye, and this dye is transferred to specially treated paper by a thermal process. The paper and ribbons are usually sold together as a pack, and the ribbon will have to be replaced after a specific number of uses. Usually the ribbons carry cyan, yellow and magenta ink, and the image on the paper is built up one colour at a time. Dye-sub printers are usually slower than equivalent inkjet printers, and are usually also more expensive to buy and run. They are more wasteful of resources, since the ribbons cannot be reused despite there frequently being a lot of dye left after use. The main advantage with dye-sub printers is that they do produce almost perfect photo-quality prints, since the image is built up in transparent layers rather than a pattern of tiny dots. Dye-sub prints may also be more resistant to fading.

> "The other advantage is that if one colour runs out you don't have to throw away a cartridge that might still have plenty of the other colours."

Print fading

It's often claimed that inkjet prints fade over time, but is that really true?

Historically, photographs printed using an inkjet printer have had a bad reputation for fading over a fairly short period of time, especially if exposed to sunlight. The problem is that the ultraviolet wavelengths in sunlight destroy the pigment molecules in the ink, causing colours to disappear. Printer and ink manufacturers have worked long and hard to combat this problem over the years, and with considerable success. Using a modern inkjet printer from any of the major manufacturers, loaded with proprietary ink and paper, your prints will be safe from fading for many years. Canon says that photos printed on its printers and stored in an album are good for at least 100 years, and the other manufacturers make similar claims.

Photos that are framed and displayed are obviously more at risk of fading, but even so modern printing inks are very fade-resistant, and even photos that are permanently exposed to daylight should be good for a couple of decades at the very least, although it's a good idea to use proper glass frames. Glass absorbs a lot of the UV light that causes fading. The glass-framed photo shown above has been hanging on my wall for nearly ten years and shows no signs of deterioration. This compares favourably with traditional chemical photographic prints from film images. ■

Printing paper

WHICH ONE IS BEST FOR YOUR PHOTO PRINTING NEEDS?

There are many brands and styles of photo printing paper on the market. Which one is right for you? There are many different kinds of paper that you can put through a domestic inkjet printer, but not all of them are suitable for printing photographs. If you've ever tried printing a photo on ordinary copier paper you'll know how terrible the results can be. The paper ends up saturated with ink which runs together giving a blurred and muddy picture, the paper crinkles as it dries, and the result is a messy, chalky finish.

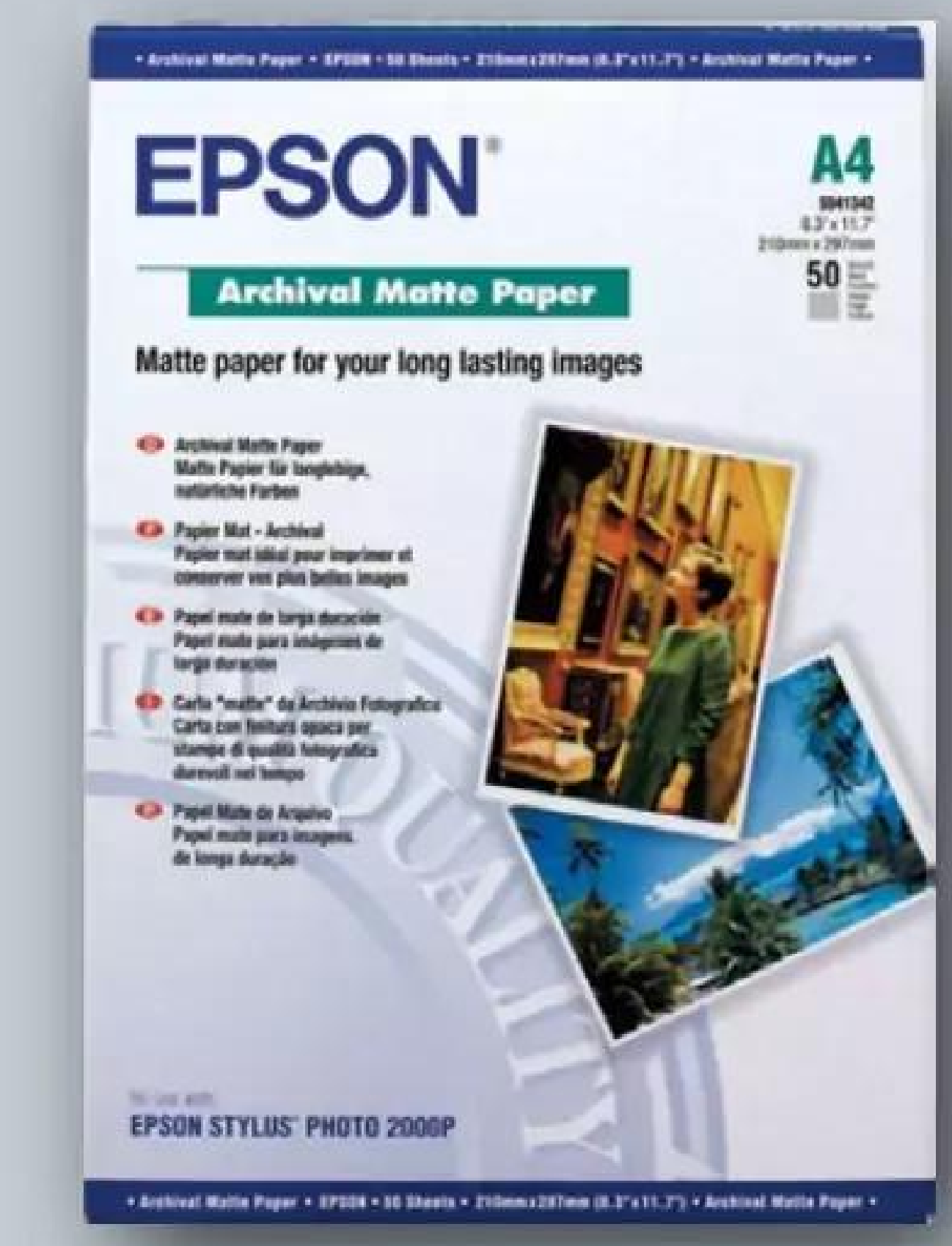
What you need to use is proper photo printing paper. It is designed with a special coating that absorbs the ink and bonds it to the paper, producing sharp rich colours and a smooth even finish. There are many brands of photo printing paper available; all the printer manufacturers also sell their own brand of paper, which are supposed to be exactly calibrated to give the best results when used in the same brand of printer. However there are also several third-party brands producing very high quality photo papers in a wide range of weights and finishes, which are fully compatible with all brands of printer.

The first thing that you'll have to decide upon is what sort of paper finish you'd like to use. The most common options include matt, glossy and satin; but there are several others including semi-gloss, pearl and lustre finish, as well as fine art papers with fibre or linen bases.

EPSON
EXCEED YOUR VISION
Photo Paper
GLOSSY
Papier Photo
GLACÉ
20
A4
EPSON

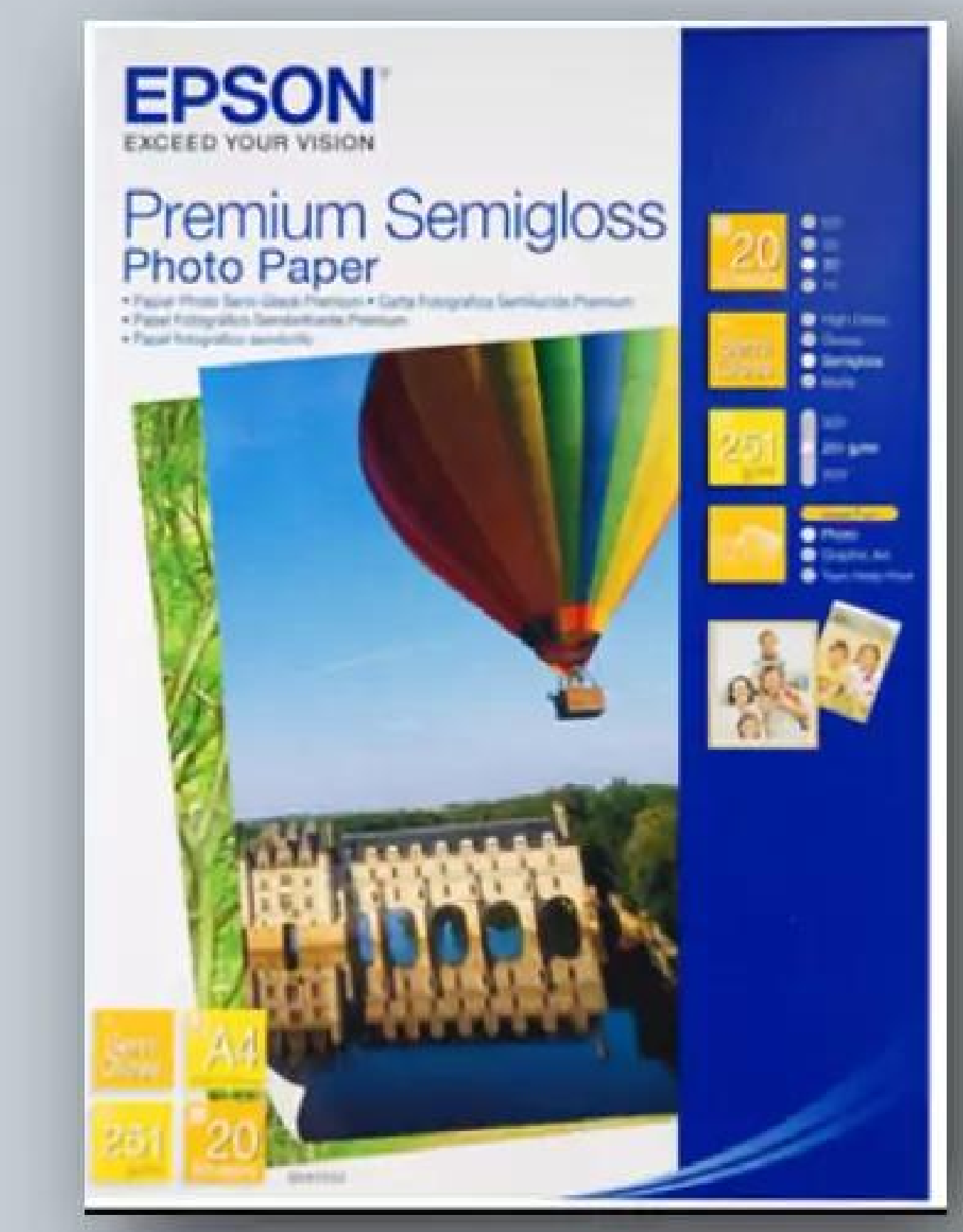
Glossy

The most widely used type of photo paper is the traditional glossy finish, although these range from normal to high gloss. The shiny polymer coating helps to distinguish the smallest details of the photograph; however it does result in glare which makes viewing the print from certain angles difficult if it catches the light.



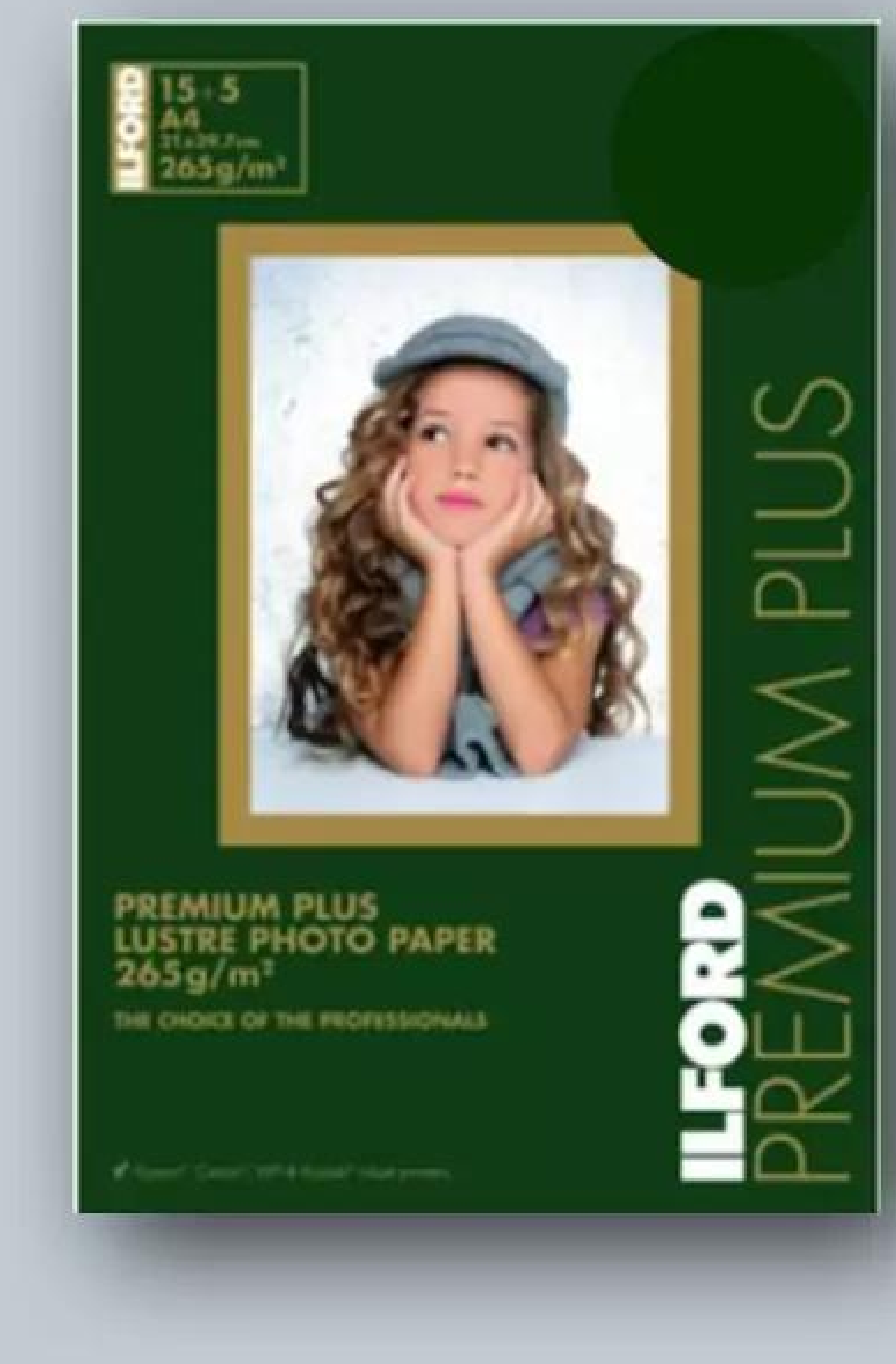
Matt

Many people prefer a matt finish to their photos, particularly for black and white photos, and it is also the best finish for any photos that have to be copied or faxed. Matt paper can sometimes be cheaper than gloss, but for the premium brands there's not much difference. There might be slightly less sharp detail visible in a matt print, but on the plus side it will be easier to view in direct light.



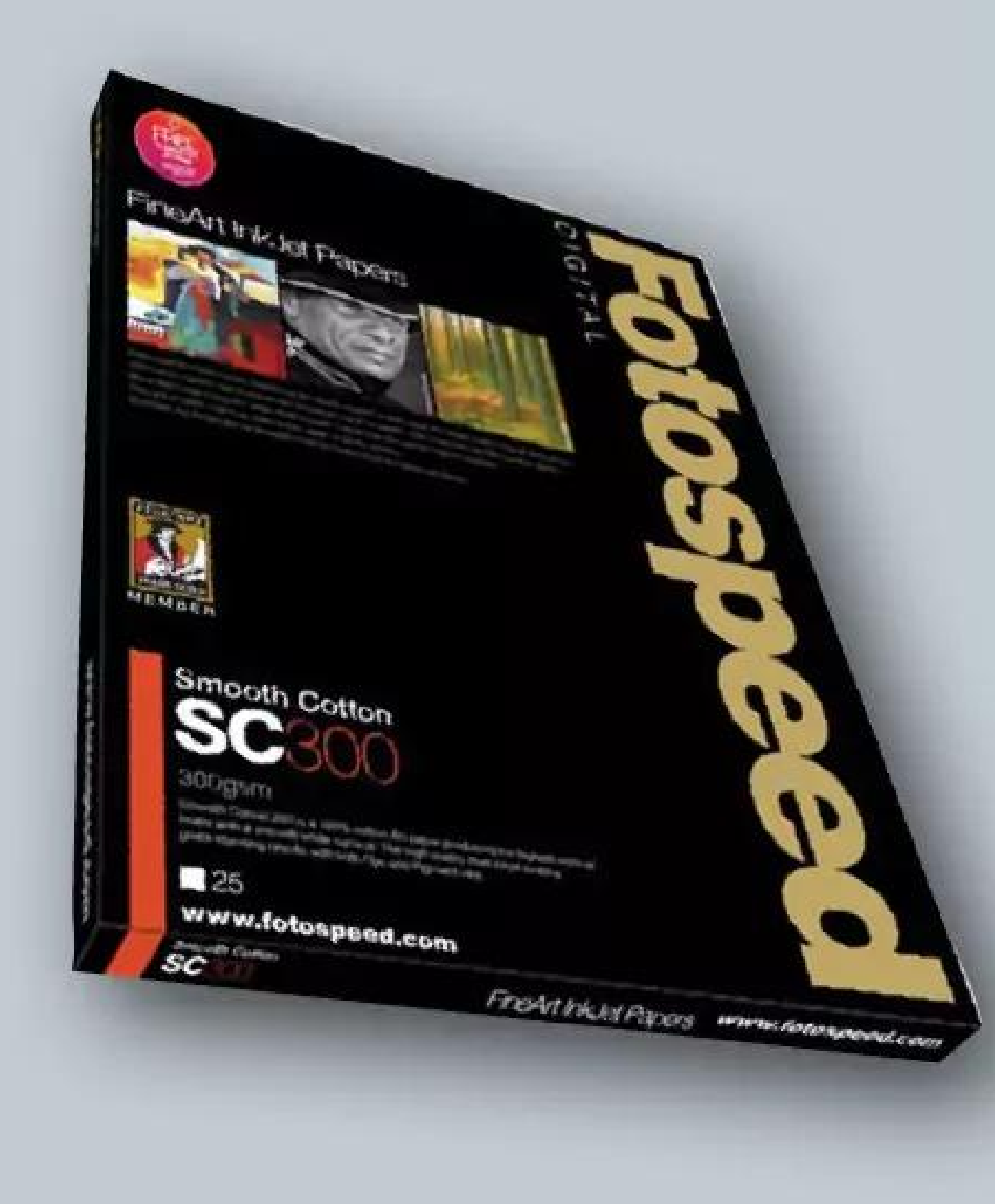
Satin

Sometimes also known as "semi-gloss" the satin finish is halfway between gloss and matt; a paper with a nice smooth finish and good detail resolution, but which doesn't catch the glare in direct light. It's a good finish to choose for prints that are framed for display, and is suitable for both colour and black and white images.



Pearl and lustre

Pearl and lustre finish papers are offered by several of the better third-party brands, such as Ilford or Fotospeed. They produce a finish similar to satin paper, but they have a slight texture to the surface, producing a print that is more tactile and feels nicer to handle, especially in heavier weights.



Fine art paper

Fine art papers with special finishes such as cotton, linen, canvas or platinum are also mostly produced by third-party manufacturers, and are suitable for special projects such as gallery exhibitions, degree presentations, wedding photos and luxury portraits.

A word about your weight

Once you've decided on the finish you'd like to use, the next consideration is weight. Paper weights (not to be confused with paperweights!) are usually measured in GSM, or grams per square metre. There are many different weights to choose from, with specific weights varying from one brand to another; generally, anything under 150GSM is only suitable for bulk printing or for photos that have to be sent via airmail, while anything over 250GSM is for high-quality photos suitable for framing. The typical values for most photo printing are between 150-250GSM.

Print sizes

Printing and paper sizes can be confusing. Here's how it works. The two most common sizes for photo printing are 6 x 4 inches (15 x 10cm) and A4. 6 x 4 prints are popular because this is the traditional size for snapshot prints from 35mm film, but in fact it is not an ideal size for digital prints. The negative of a 35mm film print is 36 x 24mm, which is a 3:2 aspect ratio, so for this the 6 x 4in print size (also 3:2 ratio) is ideal. However, most digital compact camera have an aspect ratio of 4:3, a legacy from older computer monitors and TV sets; so in order to print digital images on 6 x 4in paper either a strip at the top and bottom edges of the photo is cropped out, or wide borders are left at either side of the print.

Most digital SLRs and some digital compact cameras can shoot in the 3:2 aspect ratio, which is better for snapshot prints; but if you want your prints to look good you can always crop and resize them using a photo editing program. Likewise, A4 is not an ideal size for digital prints either, and for the same reason. A4, in fact all paper sizes beginning with an A, have an aspect ratio of 1.414:1, so again for best results and borderless prints you should crop and resize your photos before printing. Oddly, none of the major manufacturers make a photo printing paper with either a 4:3 or 16:9 aspect ratio.

How big is big enough?

How much resolution do you need for the perfect print? For perfect photo quality, your digital images should be printed at a resolution of around 300 pixels per inch, or 120 pixels per centimetre. This means that if you want a photo quality 6 x 4in (15 x 10cm) print, your digital image needs to be at least 1800 x 1200 pixels, which is roughly 2.2 megapixels. A4 paper is 21.0cm x 29.7cm; so for perfect photo quality A4 prints, your digital image needs to be at least 2520 x 3564 pixels, which is just under 9 megapixels. Even if you routinely print all your photos at A4 size, this demonstrates that you really don't need to worry whether or not your old 12-megapixel camera can still produce decent pictures!

Incidentally, don't confuse image resolution, measured in pixels per inch (ppi), with print head resolution which is measured in dots per inch (dpi). Some people seem to treat these two as though they are interchangeable whereas in fact they refer to very different things. A printer with a 1440dpi print head doesn't mean it will print your photos at 1440ppi, it just means that the individual ink dots that make up the pixels of your 300ppi photo are smaller and closer together, and thus more closely approximate a smooth even tone. ■

Developing and printing black and white film

WITH ACCESS TO A DARKROOM AND THE RIGHT EQUIPMENT, IT'S FUN AND EASY TO DEVELOP FILMS AND PRINT YOUR OWN BLACK AND WHITE PHOTOGRAPHS

Despite the rise to dominance of digital technology in both amateur and professional photography over the past 20 years, film photography has never quite entirely died out. I've often compared it to recorded music; while CDs and MP3s are more convenient, easier to use, more durable, easier to share and arguably more environmentally friendly, there is still a small specialist market for vinyl records.

It's the same with photography; digital cameras are more convenient and easier to use, and digital images are easier to share, more durable and certainly more environmentally friendly, but there are still a small number of enthusiasts who prefer film. It's also true that despite all the advances in digital sensor technology, under the right circumstances a good film camera can still produce a better picture than most digital cameras.

Recently there has been a revival of interest in film photography, and particularly in black and white. If you have access to the right equipment and chemicals, and a room that you can convert into a darkroom, it's fairly easy to develop your own black and white films and to make prints from them. While the process is messy, smelly and time-consuming, there's a greater sense of accomplishment to be had from creating a really good print from the alchemy of paper, chemicals and light, than from simply churning one out on an inkjet printer.

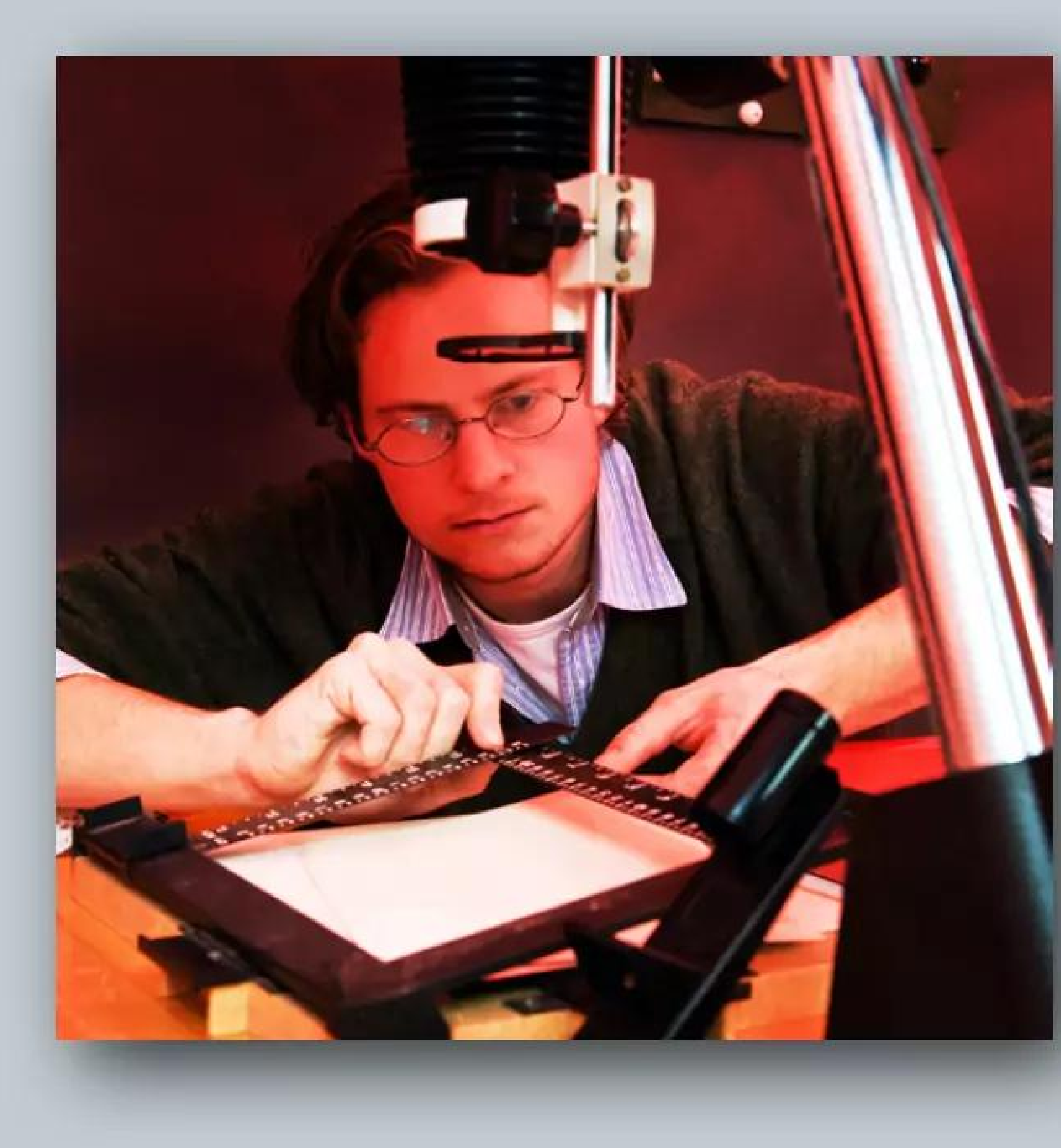
You can build your own darkroom, but it's a lot easier to use someone else's. If you're lucky enough to have both a spare room and an understanding partner you can build a darkroom at home. You'll need a room with running water and access to mains electricity, good ventilation and enough space to work. Many people use a bathroom; all you need is an old door to put over the bath to use as a workbench and an extension cable for the electricity and you're half way there. The trickiest part is making the room totally dark. Since even a small amount of stray light can fog a film it's important to make sure the room is completely light-proof. Simply taping some bin bags over the windows isn't going to be enough. If you have fairly modern windows you may be able to make light-proof window screens out of hardboard or thin MDF. If you edge them with black felt or foam tape they should make a good light-proof seal. Alternatively, you could buy some specially-made blackout blinds, but these can be expensive.

If you don't have the space or the budget to start modifying bits of your home, it may be a lot easier to simply use someone else's darkroom. Try your local art centre or college, or enquire at your local camera club. You should be able to find a darkroom that you can use for a few hours, usually at a reasonable fee.

Darkroom equipment

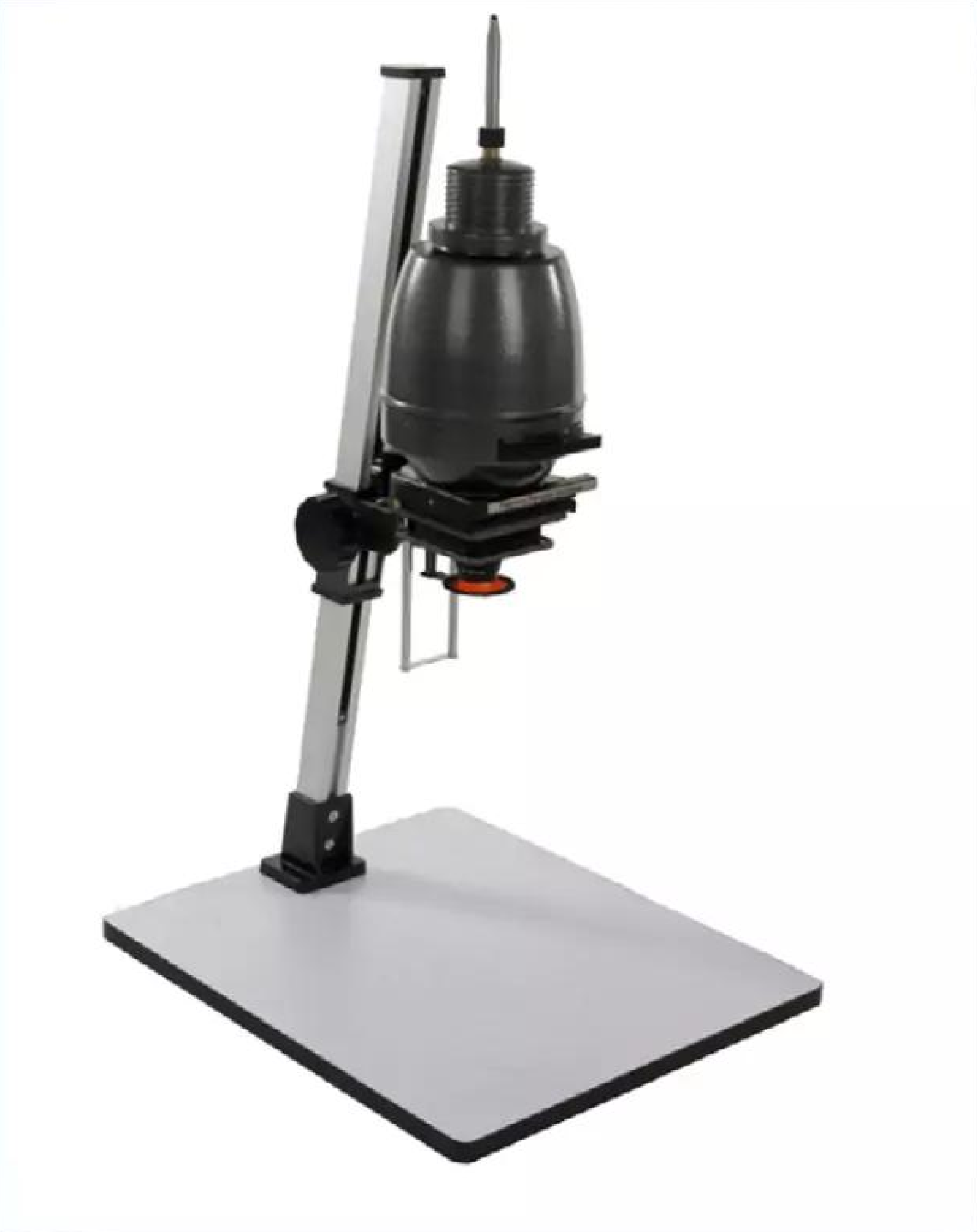
Once you've got your light-proof room set up you'll need to outfit it with a range of equipment and chemicals.

Developing and printing your own black and white photos requires a long list of specialised equipment, photographic paper and processing chemicals. Although there are fewer manufacturers around than there used to be, it's still fairly easy to find everything you'll need, either from a specialist supplier such as Paterson (http://www.patersonphotographic.com) or Fotospeed (http://www.fotospeed.com), or by shopping around for second-hand gear on eBay. Let's take a look at the things you're going to need.



Enlarger

The enlarger is the device that turns your negatives into prints. It's basically a powerful light source in a box, mounted on a stand upon which it can be moved up and down. Below the light source is a holder for the negative, and a lens to focus the image onto the photographic paper. Black and white enlargers usually also have a red safelight filter. A good basic enlarger such as the Paterson Universal shown here will cost around £230 new, but you can find used ones on eBay for as little as £20.

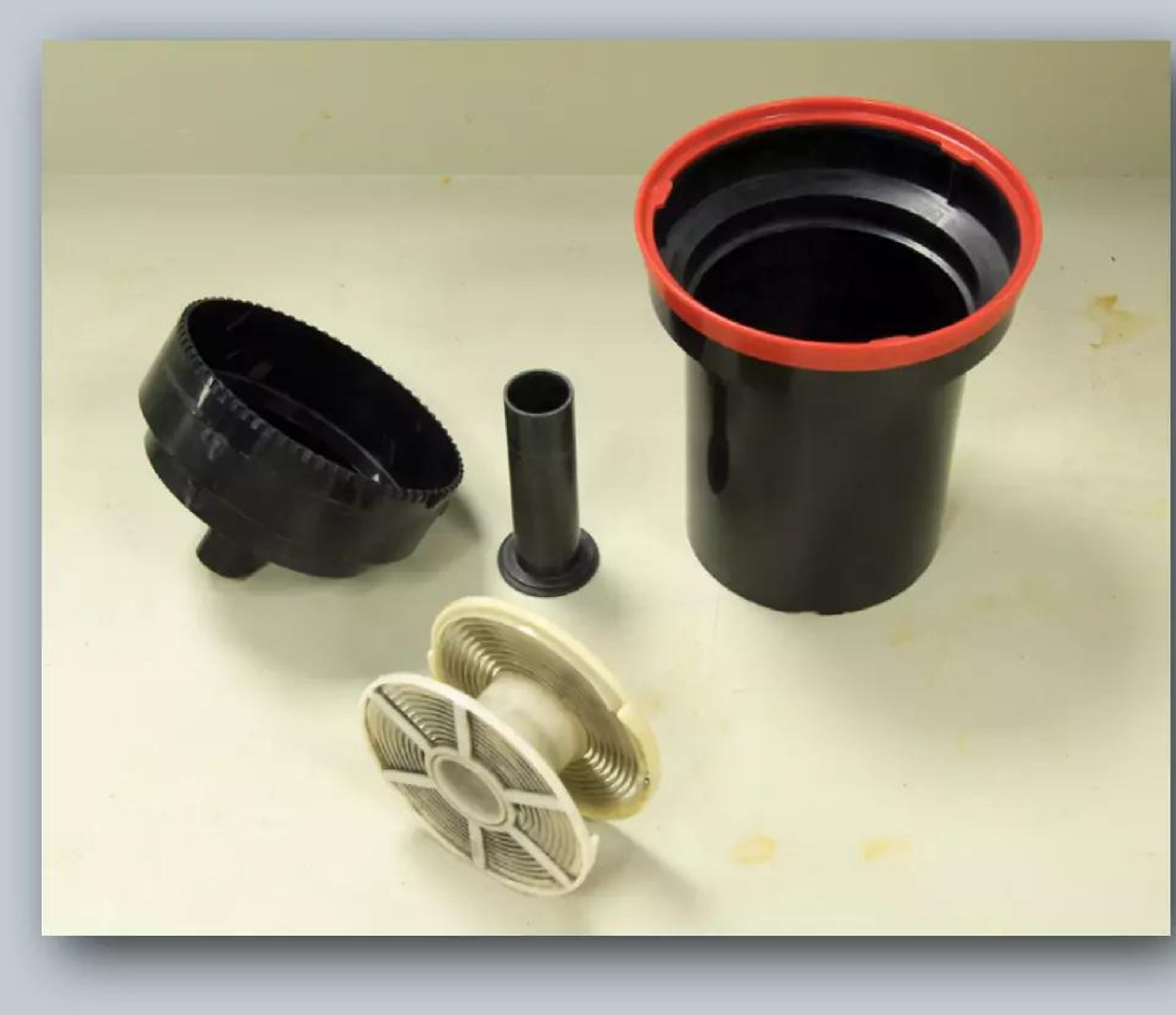


Print developing trays

You'll use these plastic trays to develop your prints. You'll need a few sets of these, of various sizes to match the size of your prints, since using trays that are too large wastes expensive chemicals. They usually come in sets of three, colour coded for the different chemicals you'll use. Prices vary depending on size, ranging from about £12 for three small 12 x 18cm trays, up to nearly £70 for a set of big 50 x 60cm ones.

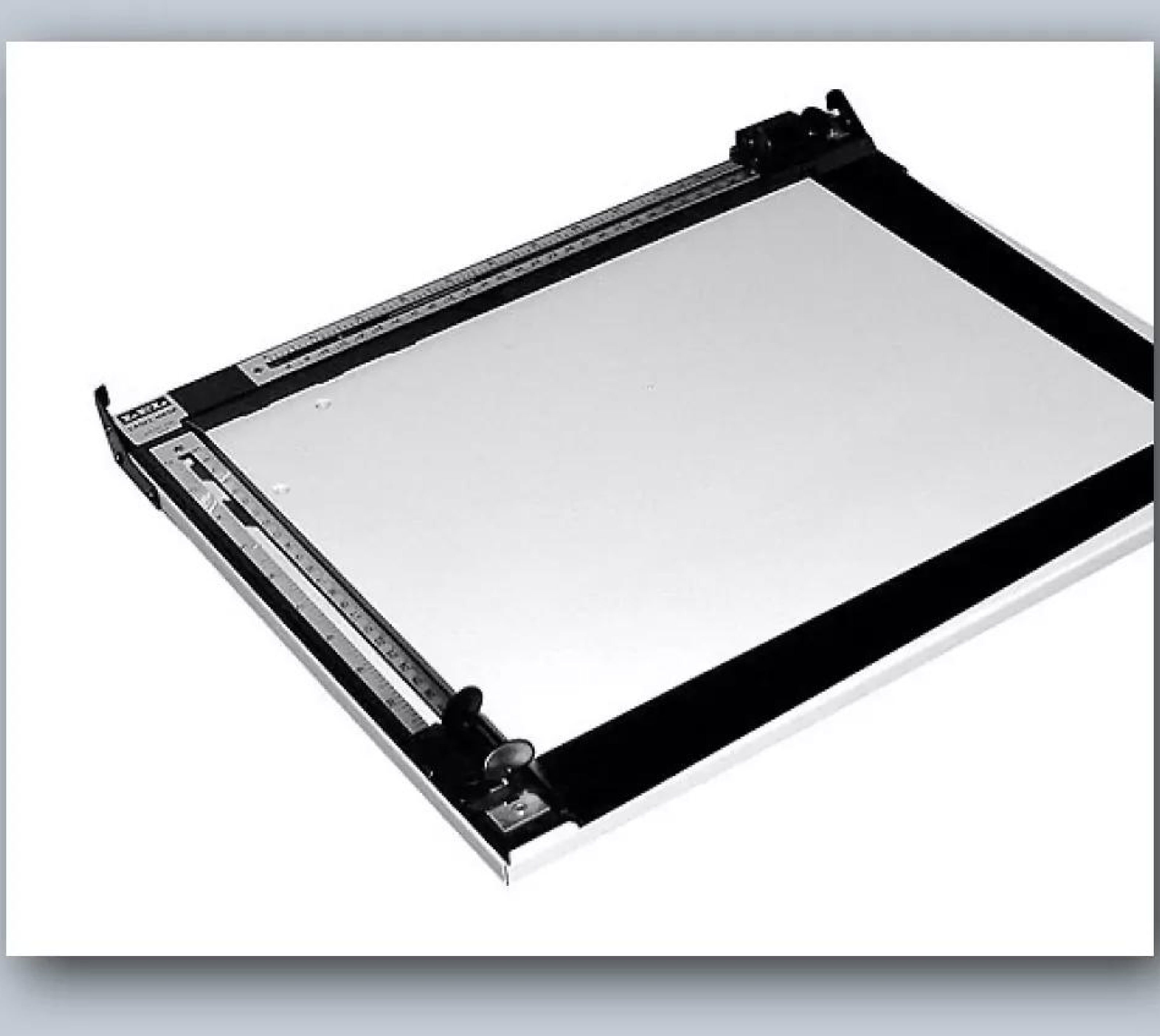
Film processing tank

You'll need one of these if you want to develop your own films. It's basically a plastic tank with a light-proof lid containing one or more spirals onto which the film is wound. Once the film is inside and the lid is on, the processing chemicals can be poured in and out of the tank in normal light. The Paterson Super System 4 tank is the most popular model for hobbyists, and costs around £25 with a film spiral.



Masking frame

The masking frame, sometimes known as the printing easel, goes under the enlarger and is used to define the size of your print, producing sharp edges and white borders. There are many different makes, sizes and styles, some costing hundreds of pounds; but this basic two-blade model from LPL can handle print sizes up to 20 x 26 cm (8 x 10 in) and costs around £70. Or you could just use holes cut in cardboard!



Darkroom equipment

Red safelight

While black and white film is of course sensitive to light of all wavelengths, black and white photographic paper is not sensitive to red light; so as long as your darkroom is only illuminated by one of these safelights you can at least see what you're doing while handling paper. This popular Paterson Darkroom Safelight will cost you around £30.

Graduated measuring beakers

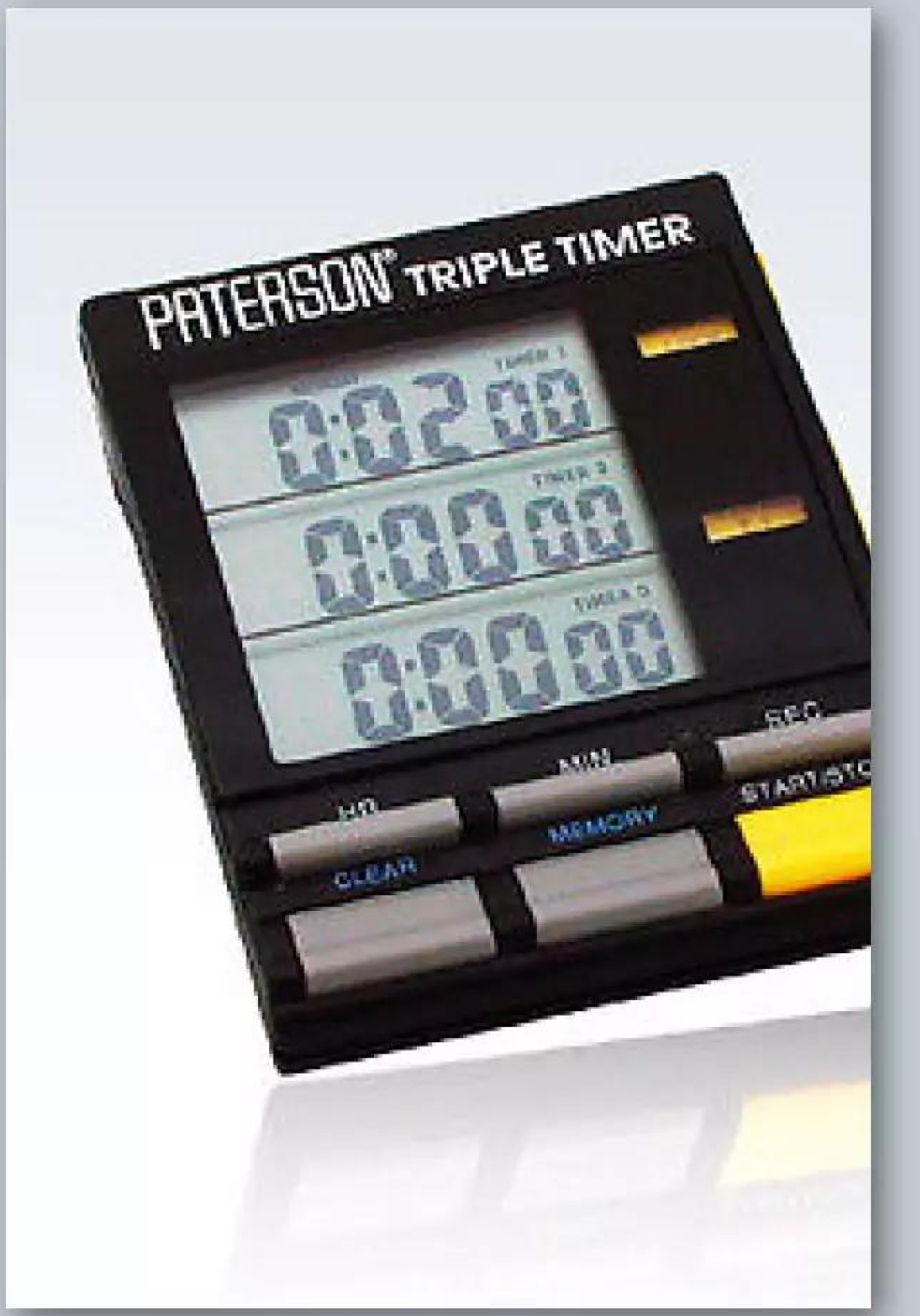
Film and print processing involves a lot of different chemicals, which have to be mixed in the correct volumes and concentrations. To do this you'll need a selection of graduated measuring beakers, preferably one for each type of chemical to avoid cross-contamination. Make sure you buy ones designed for darkroom use, as these will be chemical resistant. Paterson sells them in a range of volumes, with prices varying from about £6.50 for a small 45ml one, up to about £12 for a large 1.2 litre one.

Thermometer

Film and print processing is all about controlling chemical reactions, so naturally temperature is a very important factor. To accurately measure the temperature of your chemicals you'll need a good spirit thermometer, preferably about 30cm (12 in) long, with a scale of at least 13-30 degrees centigrade (56 to 86F), and accurate to 0.3 degrees C. You can buy one for about £15.

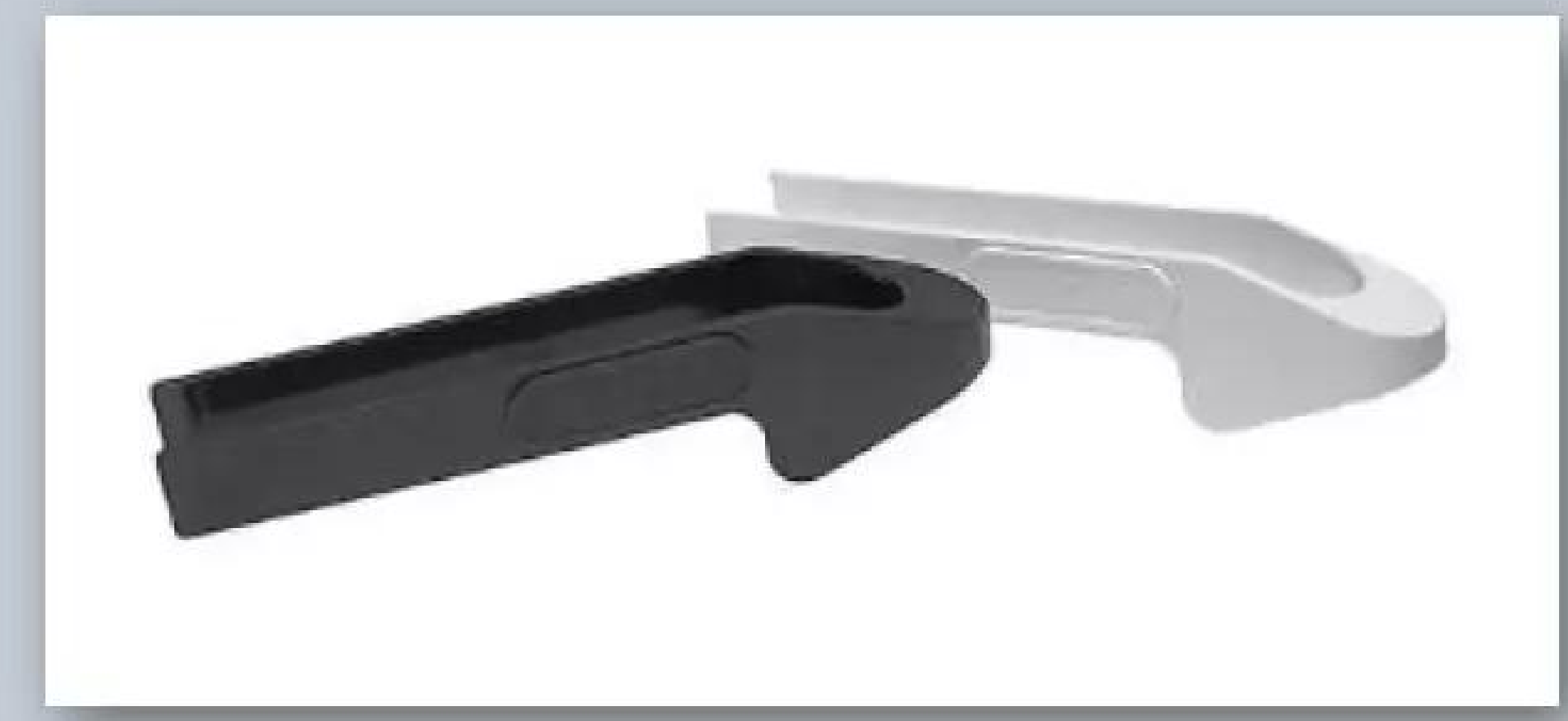
Timer

As well as controlling temperature, you'll need a way to accurately measure time down to the second. You can just use an ordinary stopwatch when you're starting out, but there are a range of specialised darkroom timers available, including wired-in dedicated enlarger timers. Some of them are very expensive, but this Paterson darkroom triple timer is ideal for beginners and costs under £20.

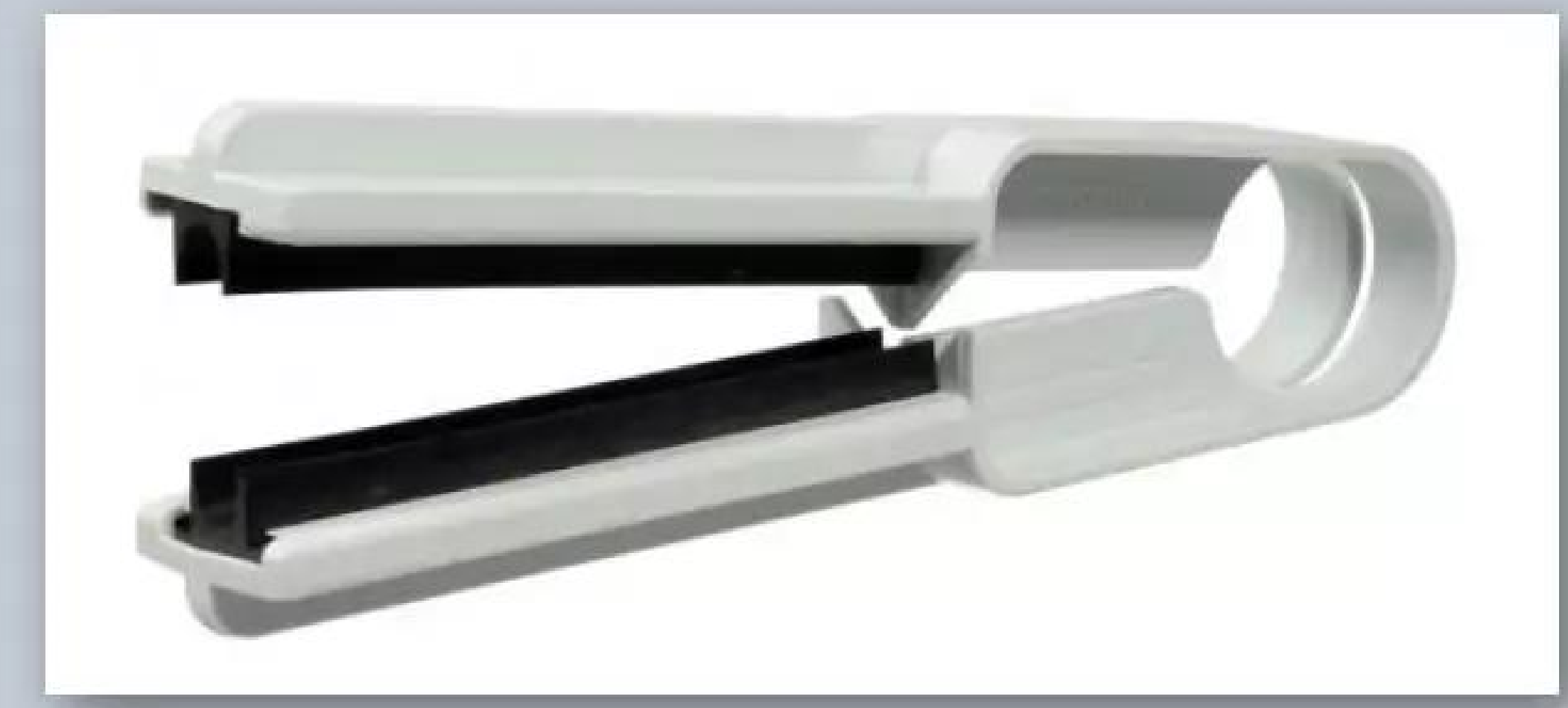


Other items

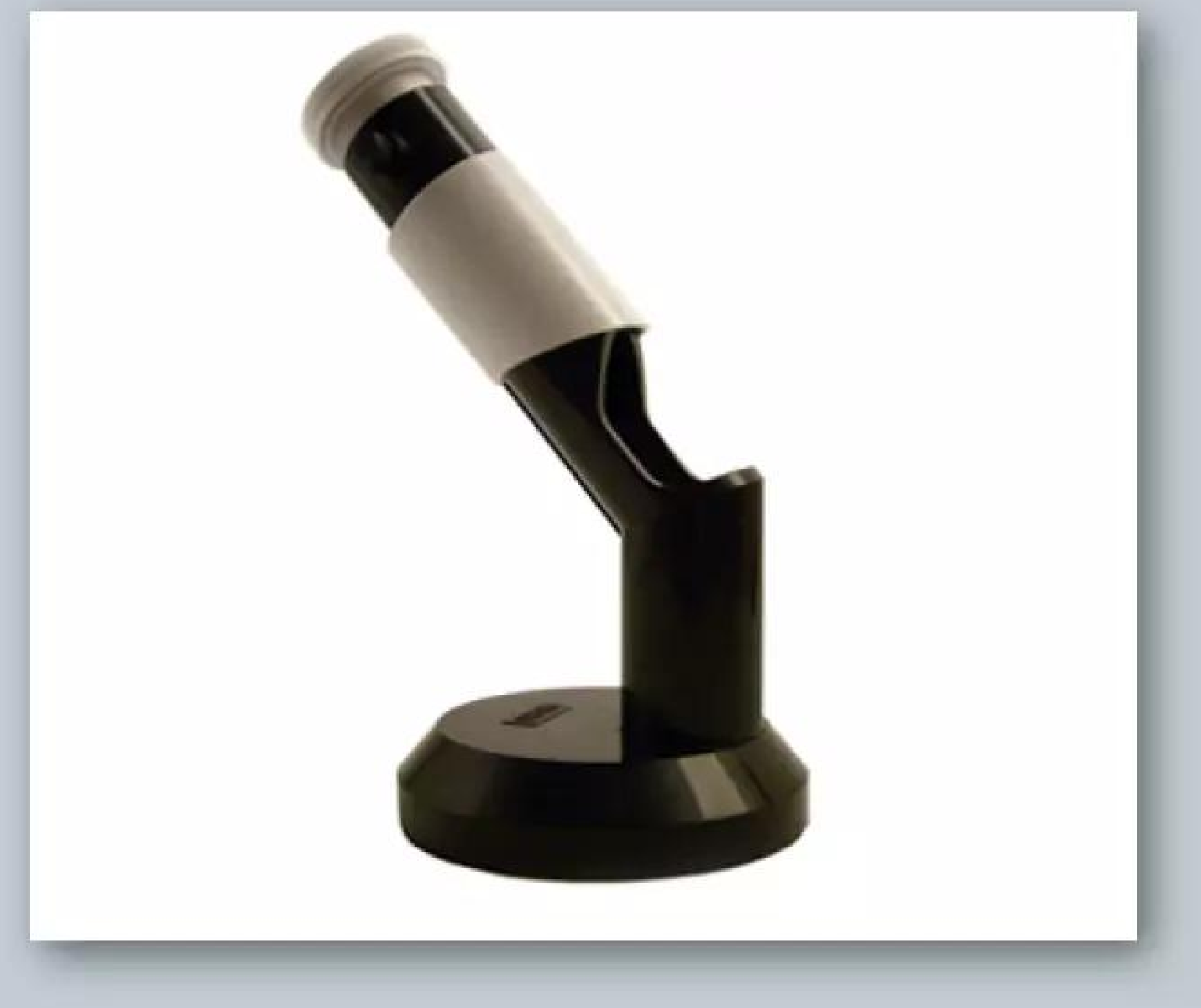
These odds and ends are not essential to get started, but they should be on your wish list.



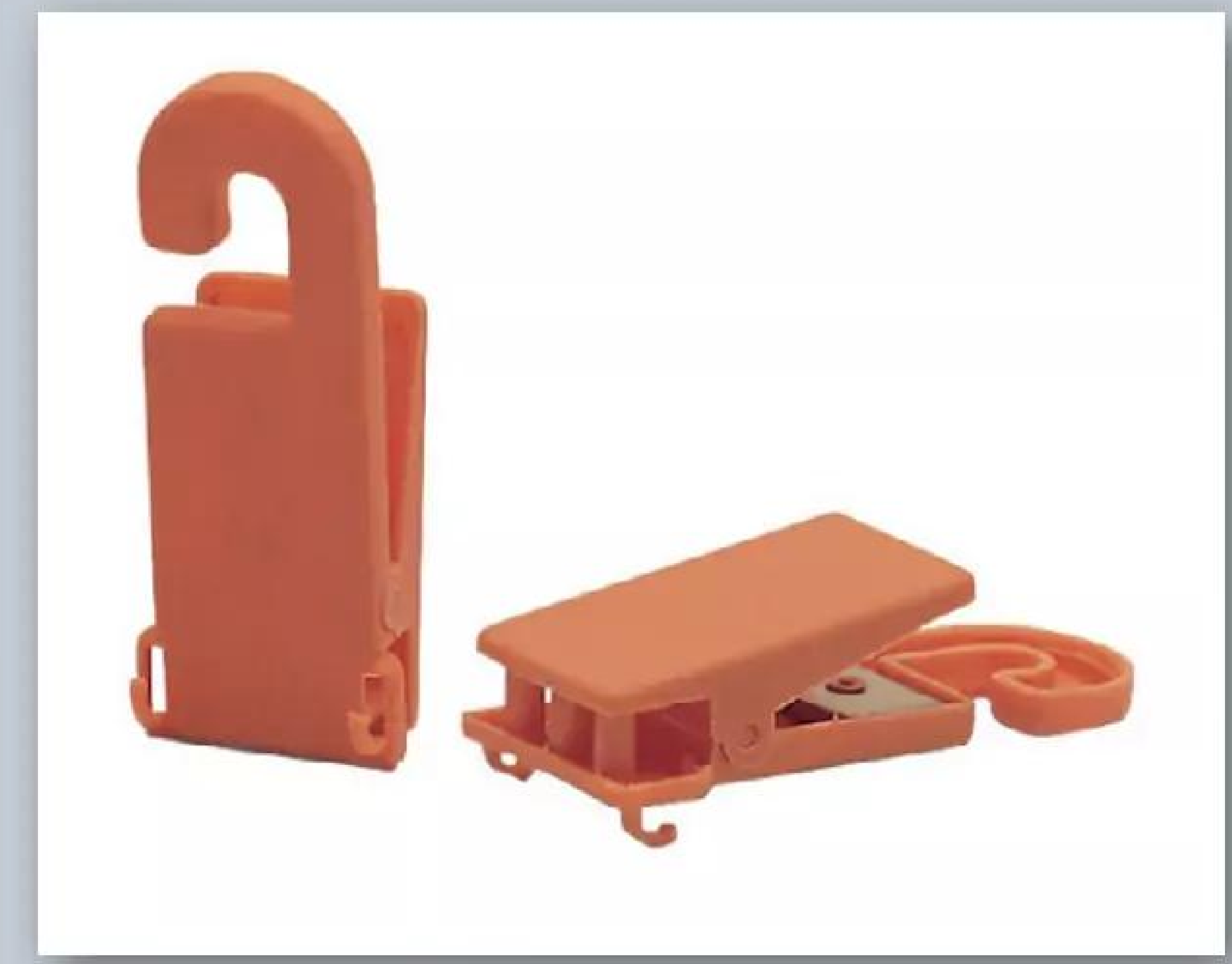
Print tongs, used to handle prints while developing, to avoid both getting the chemicals on your hands and finger marks on your prints.



Film squeegee, used to remove excess water from your developed film before drying, to minimise the chances of streaking and water marks.



Focus finder, used to check that the enlarger is correctly focused by magnifying the grain in the negative.



You should hang your processed film up to dry it. You can use clothes pegs, or you can buy these weighted film drying clips for about £6.50 a pair.

Processing chemicals and paper

Traditional film photography is a chemical process, and you need a selection of chemicals for both film and print processing.

Both film and print processes use similar but slightly different products, but the steps are the same in both cases. First the film or print is immersed in a developer solution, which converts the exposed silver halide particles in the film or paper to larger visible particles. Next is the stop solution, which quickly arrests the development process at the right time. Then comes a fixer solution which makes the revealed image permanent and prevents further reaction to light. Finally the film or print is washed to remove the remaining chemicals, usually with a rinse aid to prevent drying marks.

Although several of the big names in photographic processing have fallen by the wayside, there are still companies making chemicals for home processing. One of the best is Fotospeed (http://www.fotospeed.com), which sells a complete range of photo processing chemistry and papers.

Fotospeed RCVC Photographic Paper

Fotospeed RCVC is a resin-coated variable contrast paper suitable for all black and white printing. By using yellow and magenta filters the contrast can be varied in five steps. Available in a range of sizes and quantities, 25 sheets of 8x10 will cost around £15.

Fotospeed
B+W Photographic Paper
N+B Papier Photographique
S+W Fotographisches Papier
RCVC
GLOSSY

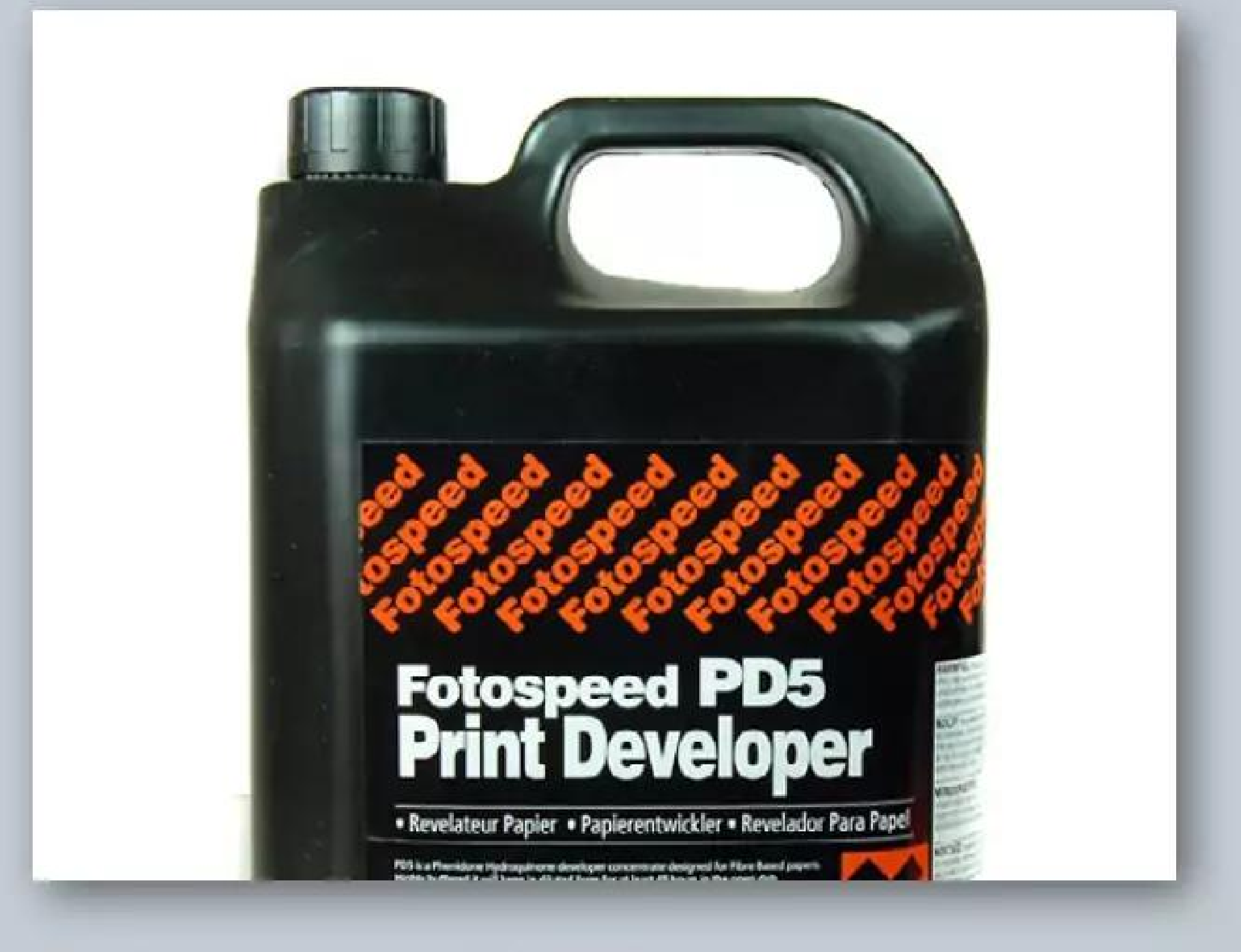
Fotospeed FD10 Film Developer

FD10 is an excellent fine-grain black and white film developer, ideal for general purpose use. It is sold in 1 litre and 5 litre containers, and is diluted 9:1 for one-shot use. Five litres of FD10 will cost around £27.

Fotospeed FD10
Film Developer

Fotospeed PD5 Print Developer

Fotospeed PD5 is a high quality general purpose print developer that can also be used to process sheet film. It is sold in 1 litre and 5 litre containers, and is diluted 9:1 for use. Five litres of PD5 will cost around £26.


Fotospeed PD5
Print Developer

Fotospeed FX30 Odourless Fixer

Fotospeed FX30 is an odourless fixer for those photographers who dislike the smell of normal fixer. It can be used for both film and prints. It is diluted 9:1 for use, and five litres of FX30 will cost around £26.

Fotospeed FX30
Odourless Fixer
1 Litre Conc. Makes 10 Ltrs.

Fotospeed SB50 Stop Bath

Fotospeed SB50 is an odourless stop bath for film and paper with an indicator dye to let you know when it's exhausted. It is sold in 1 litre and 5 litre packs, and is diluted 19:1 for use. Five litres will cost you around £32.

Fotospeed SB50
Odourless
Stop Bath
With indicator
1Ltr Conc. - to make 20 Ltrs.

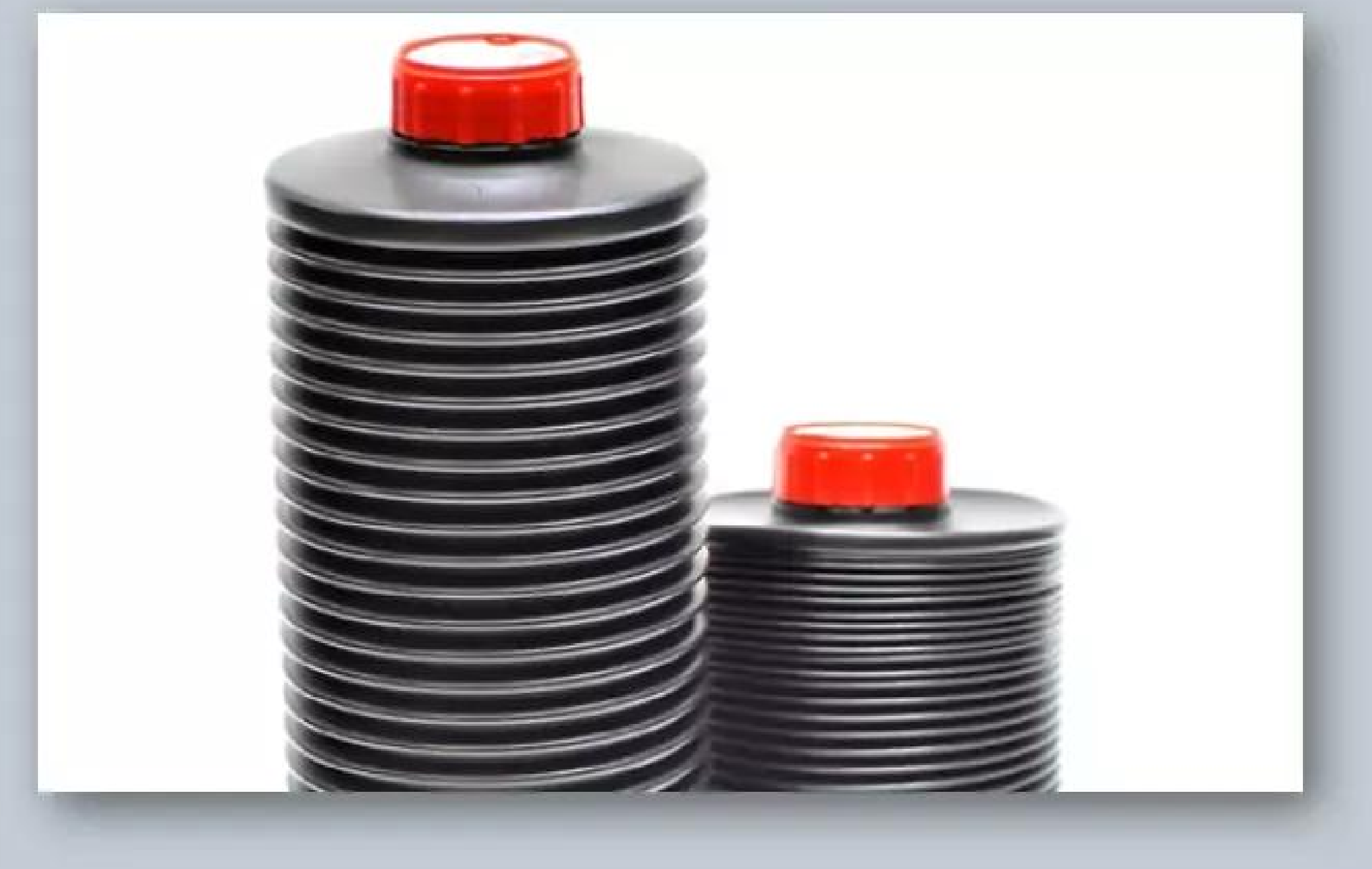
Fotospeed RA50 Rinse Aid

Rinse aid, also known as wetting agent, is basically a very pure soap solution. Fotospeed RA50 is excellent value, and is sold in 500ml super-concentrate packs, diluted 200:1 for use. a 500ml bottle will cost you £5.60.

Fotospeed RA50
Rinse Aid
500ml Conc to make 100 Ltrs.

Storage bottles

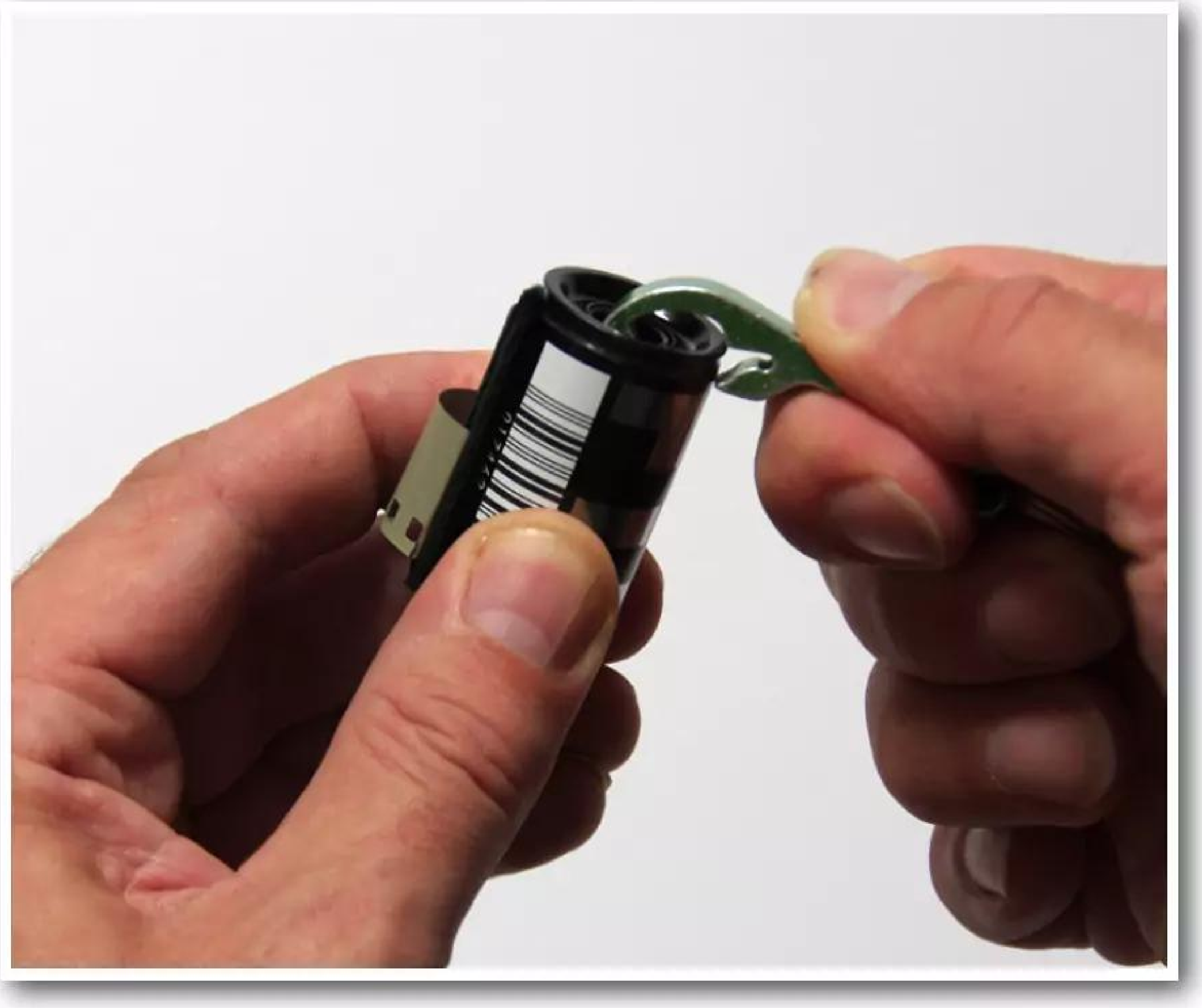
Film and print developer is usually diluted immediately before use and discarded after, but other solutions can be stored. These concertina storage bottles can be squeezed down to remove air, reducing degradation due to oxidization. A 2L bottle costs around £10.



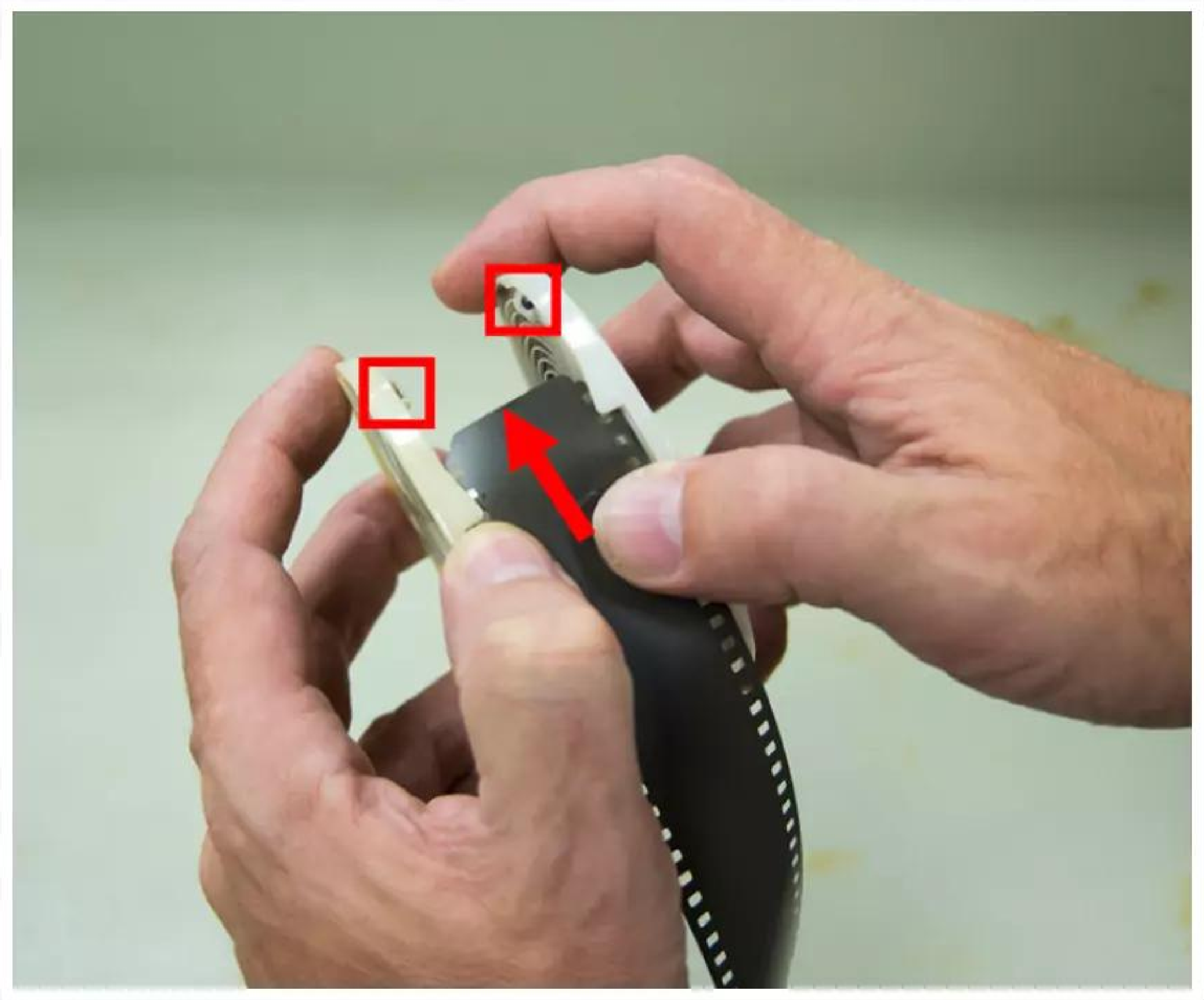
Developing black and white film

Processing your own black and white films is easy and fun, as long as you're not afraid of the dark! It pays to practise these steps in daylight with an old film before venturing into the darkroom.

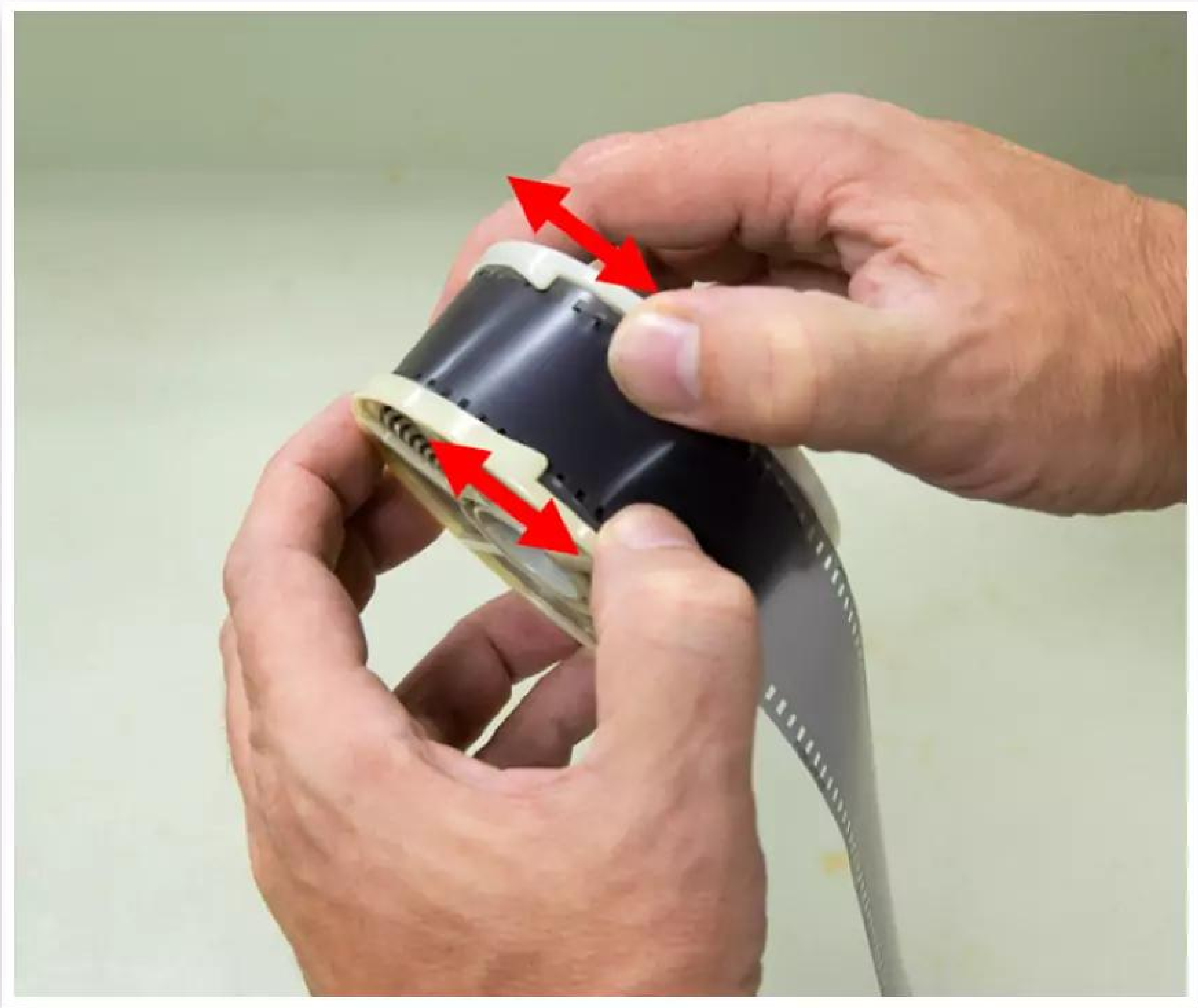
Note: Steps 1-5 must be carried out in complete darkness!



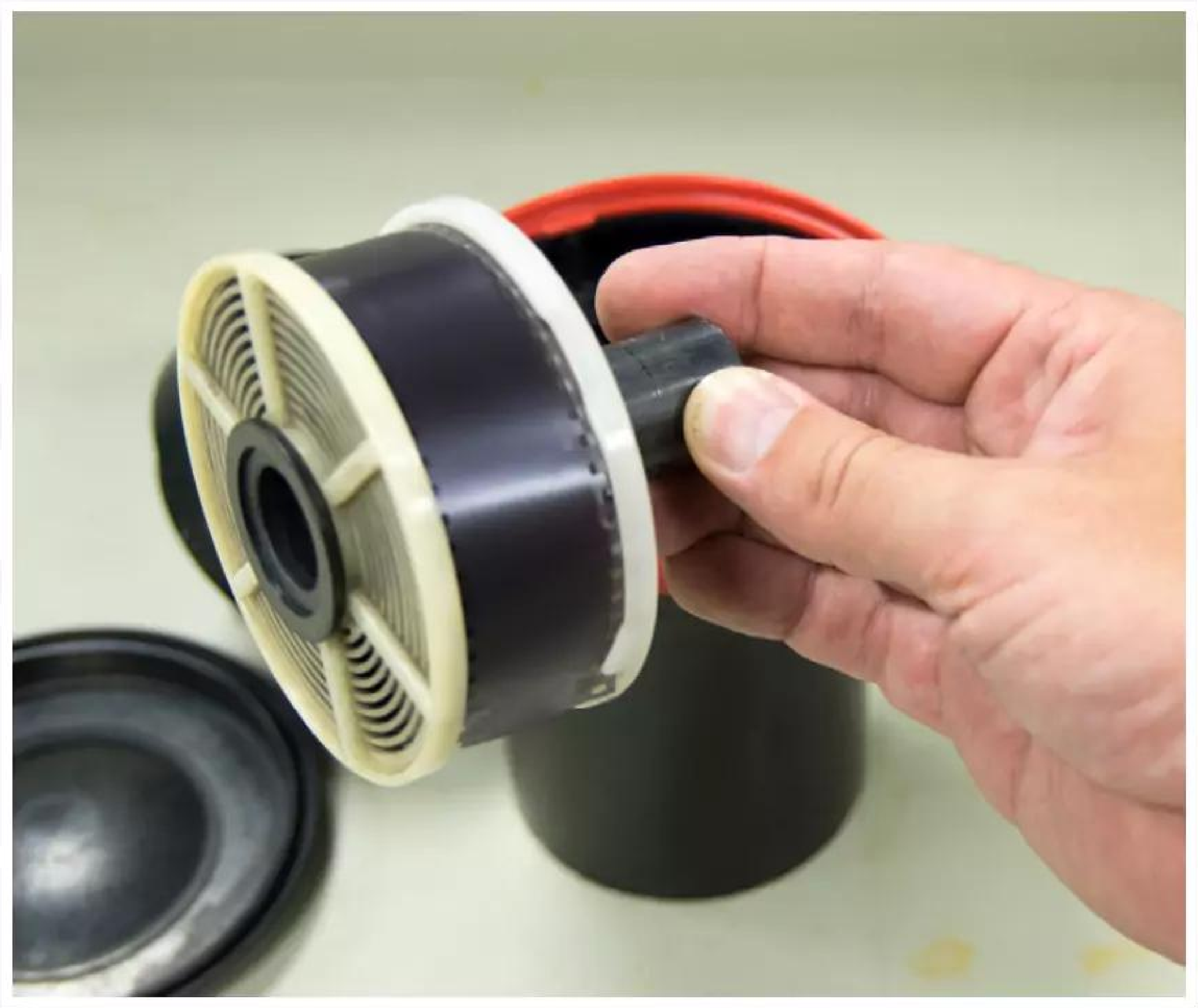
01 In darkness, use a crown-cap bottle opener to remove the end cap from the film canister and remove the film. Unspool the film and detach the end from the reel, and use scissors to carefully snip off about a quarter of an inch from the corners of the end of the film.



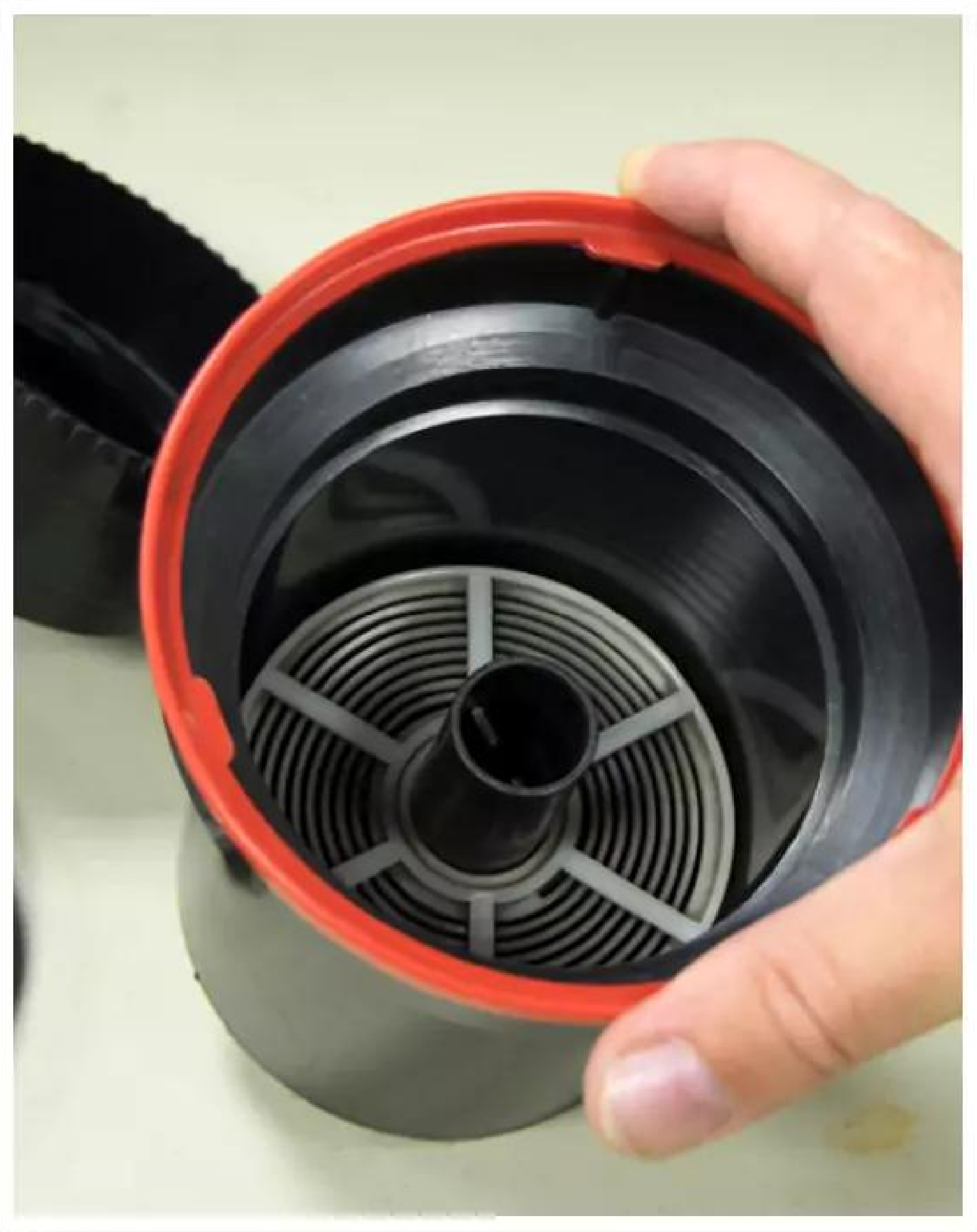
02 Still in darkness, thread the snipped end of the film into the track of the developing spiral and push it in a couple of inches until the sprocket holes engage with the two ball bearing ratchets indicated by the red squares.



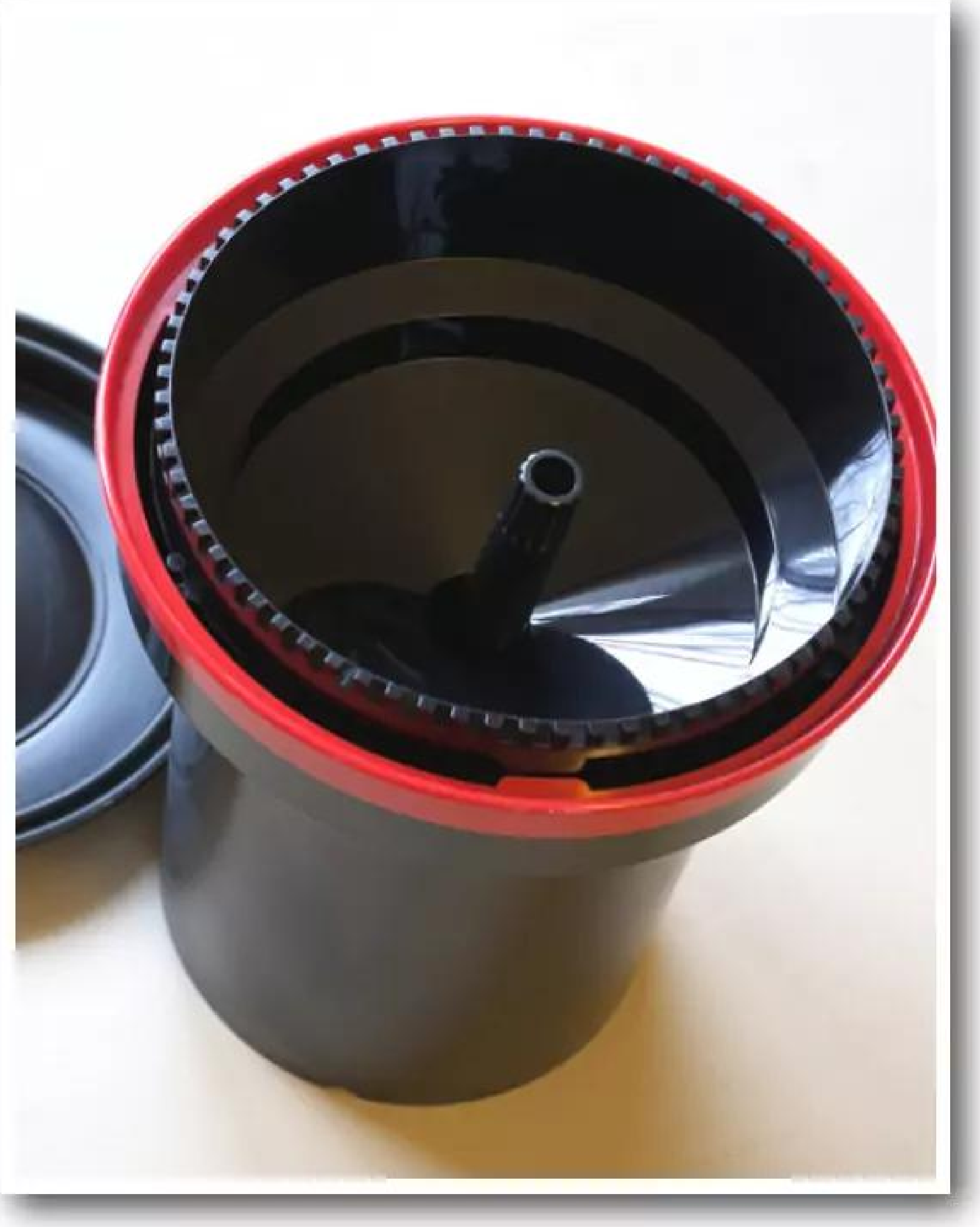
03 Once the film has engaged with the ratchets, twist the sides of the spiral backwards and forwards, alternately gripping the sprocketed edge of the film. The action of the ratchets will slowly draw the film onto the spiral. It's a good idea to practise this in the light with an old film.



04 Once the film is completely wound onto the spiral, insert the centre column into the middle of the spiral. This column forms part of the light-proof seal of the tank, and also helps with agitation, so don't forget this part!



05 Place the spiral on the centre column into the developing tank, with the spiral at the bottom. Place the funnel lid into the top of the tank and turn it until you feel it lock in place. With both components in place the tank is now light proof.



06 Once the funnel lid is securely in place you can safely turn the lights back on! The centre column and funnel lid make a light-proof seal. The plastic post in the funnel hole is the agitator, which can be turned to move the column and spiral.

07 Mix your chemicals. Refer to the information sheet that came with the developer for the correct temperature and developing time for the type of film you're using. One film uses about 300ml of solution. Stand the flask in hot or cold water to adjust the temperature.

08 Pour the developer into the tank, tap it a couple of times to remove air bubbles, and then gently agitate for the development time. Empty the developer down the drain, then quickly apply the stop bath for 30 seconds. Drain that and then apply the fixer for three minutes.

09 Rinse the film in running water for about ten minutes, and then add a few drops of rinse agent. Take the film off the spiral, squeegee off any excess water and hang the film up to dry, preferably for 24 hours.

10 Once the film is completely dry, snip off the blank ends and cut the film up into five or six frame strips. It's best to store your processed film negatives in acid-free archival sleeves for maximum durability.

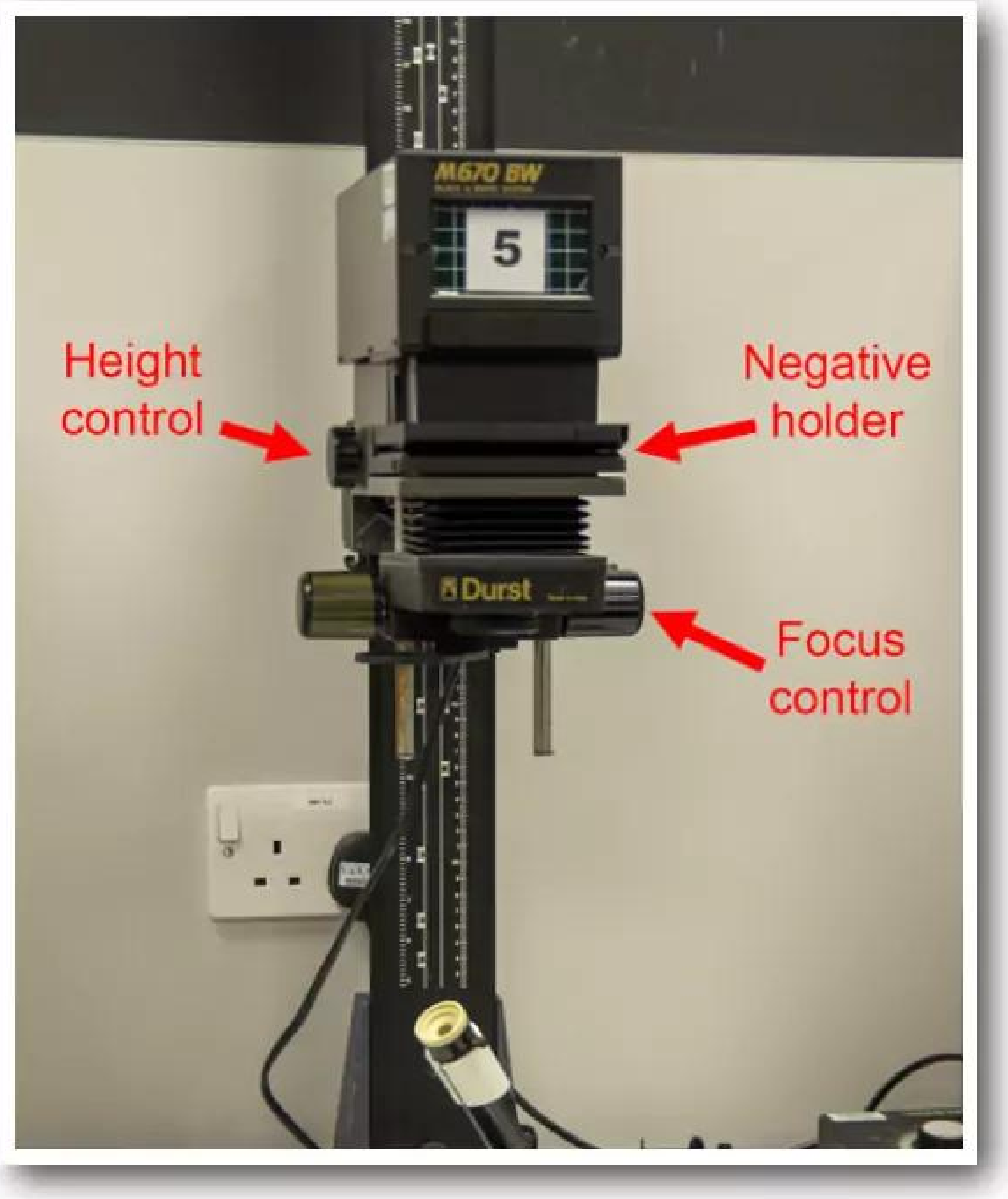
Making black and white prints

There's nothing quite like the magic of seeing your photos turn into beautiful black and white prints before your very eyes.

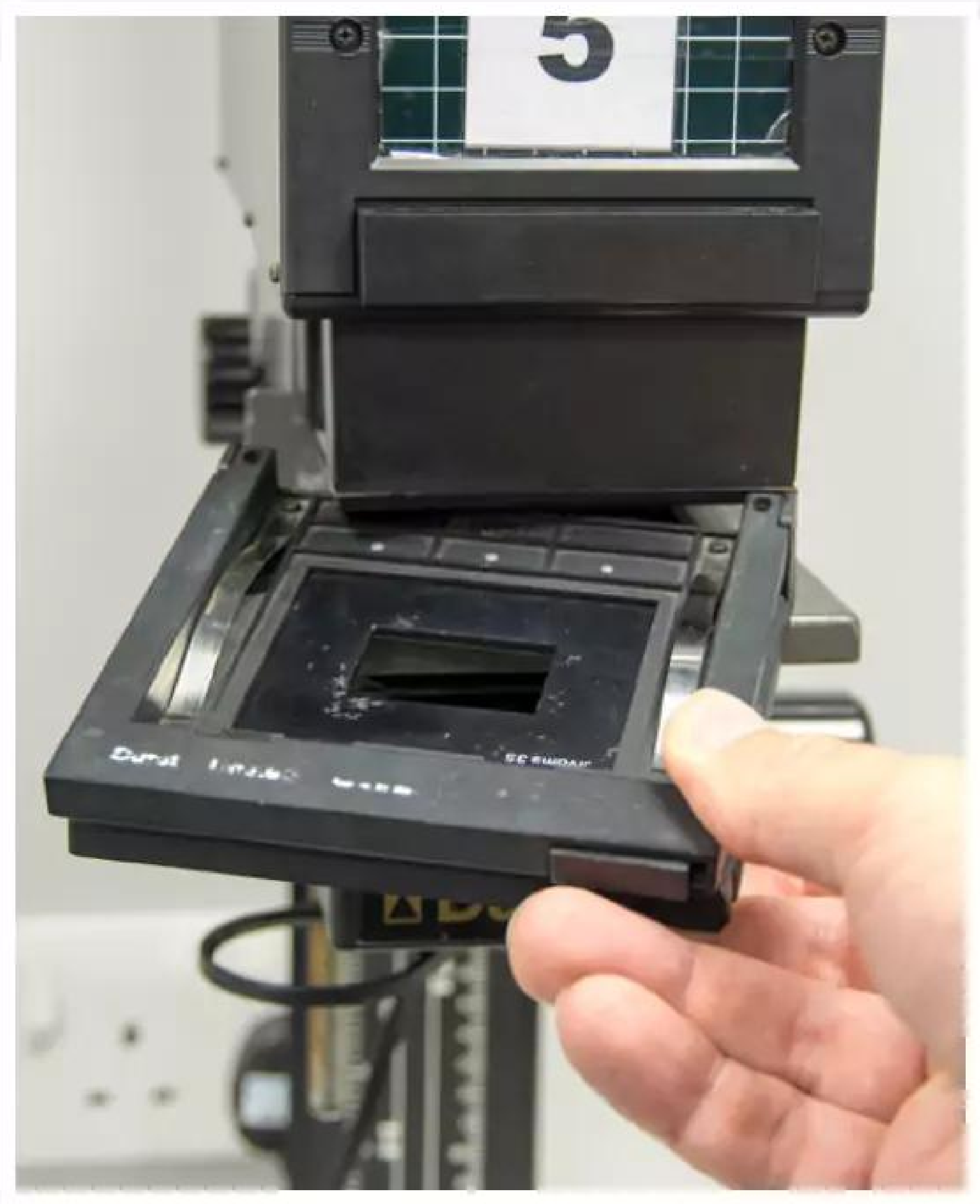
Note: Always use a red safelight when handling photographic paper.

01 The first step is to mix up your chemicals. You'll need enough to fill your trays to a depth of about half an inch. Temperature control isn't as critical as it is for film, but you should aim for about 20 degrees C.

02 Use three separate trays for developer, stop bath and fixer, and always use the same tray for each chemical to avoid cross-contamination. Use paper handling tongs to keep chemicals off your hands. If you have sensitive skin use chemical-resistant gloves.

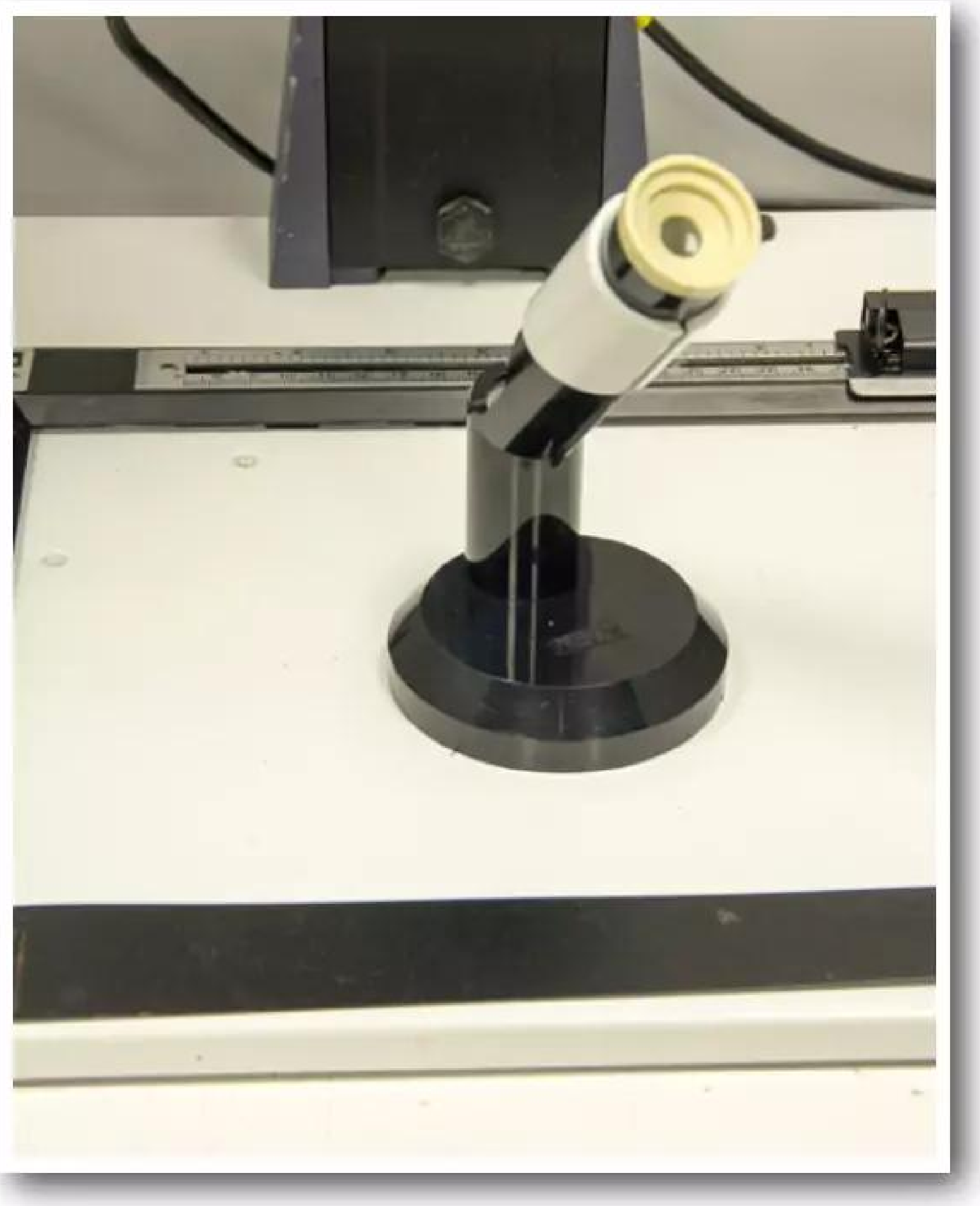


03 Prepare your enlarger. Place the masking frame on the enlarger bed, with the crop bars positioned for the size of paper you're using. Remember to switch off the main lights and switch on your red safelight before opening the pack of photographic paper.



04 Take the negative carrier out of the enlarger and open it up. It has a mask in it the same size as a frame of film, and may also have clips or pegs to hold the film in the correct position. Check that it's free of dust, and clean with a soft brush if needed.

05 Taking care not to get finger marks on the film surface, use a soft brush to remove any dust from the negative and position it in the negative holder. Close the holder and put it back into the enlarger.



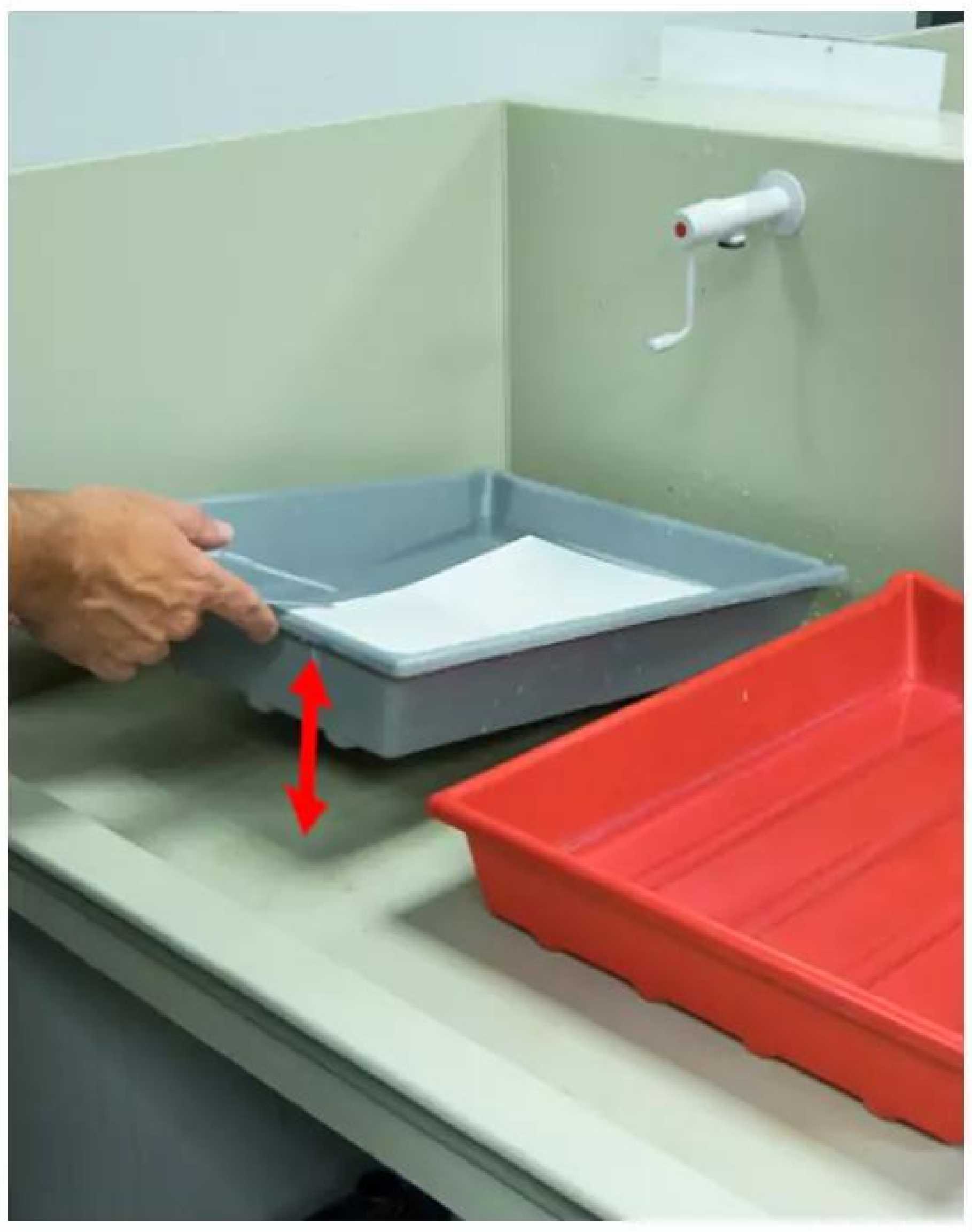
06 Switch on the enlarger, and move the head up or down to compose your image in the masking frame. Use your focus finder to focus the image. The focus finder magnifies the grain in the negative, so you can see exactly when it's in perfectly sharp focus.

Many thanks to Jeffrey Evans and Exeter College for their generous help and the loan of their excellent darkroom for this article!

07 Turn off the enlarger, then under a red safelight place a sheet of photographic paper into the masking frame, making sure it's completely flat. Close the frame, and then completely cover the paper with a piece of card, then switch the enlarger on.

Durst TIM 60
10
20
30
40
50

08 Move the card aside to expose a strip of the paper about an inch wide. After five seconds move it a further inch, and continue until the whole sheet has been exposed, then turn off the enlarger. This is a test strip to determine the correct exposure time.



09 Still under the red safelight, remove the paper from the enlarger and place it into the developer solution, making sure it is quickly and evenly immersed. Gently raise and lower the end of the tray so that the solution washes over the paper.

10 Watch as the picture develops. When the development process is complete, usually after about 60 seconds depending on your developer, remove the paper from the developer solution and place it face down into the stop bath solution for about 10-15 seconds.

11 Remove the paper from the stop bath and place it into the fixer solution for about a minute. At this stage it's safe to turn the lights back on, but first make sure you haven't left your packet of photographic paper open!

12 Wash the print in clean running water for a few minutes, and then hang it up over a draining board to dry for several hours. By examining the test strip exposure you can determine the ideal exposure time for the perfect print from that negative.

DIGITAL EDITING TUTORIALS

There was a time, not that long ago, when image editing meant producing a black and white print in a darkroom under an enlarger; and when the image was processed and fixed, breaking out the brush and ink and physically painting on the print to 'retouch' it to enhance or remove blemishes. Things have changed quite a lot since then.

One of the great things about digital images is that it's very easy to improve or alter them using the right computer software. There are dozens of image editing packages available, ranging from simple, easy-to-use programs costing under £20, all the way up to the professional-standard Adobe Photoshop, which costs over £600.

On the following pages you'll find a selection of tips and techniques for improving and altering your images. We have used a mixture of Photoshop and Photoshop Elements in our tutorials. Of course we've barely scratched the surface when it comes to creative image editing, but hopefully you can combine and adapt these techniques to produce the results you're looking for. ■

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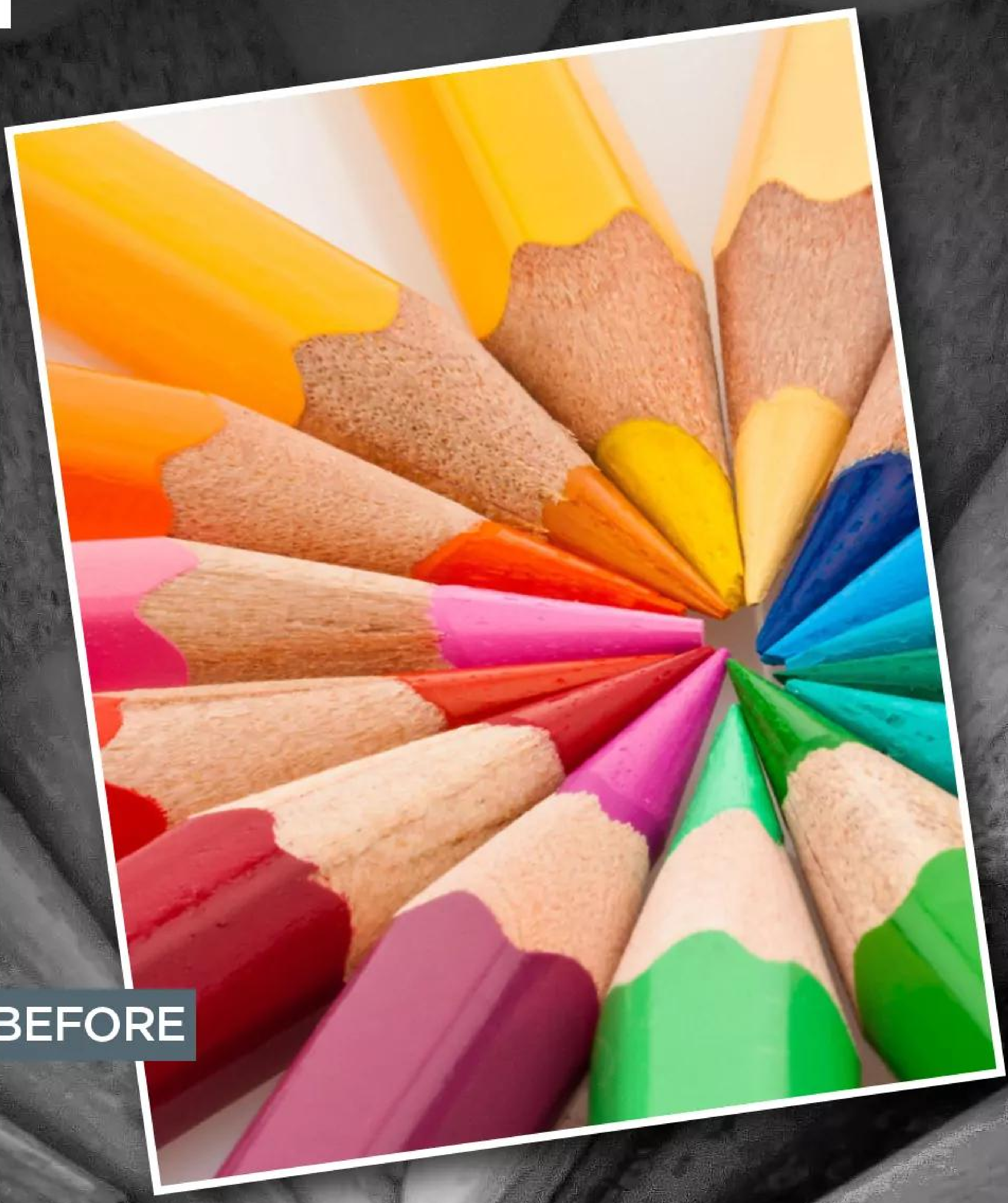
"One of the great things about digital images is that it's very easy to improve or alter them using the right computer software."

Selective colour

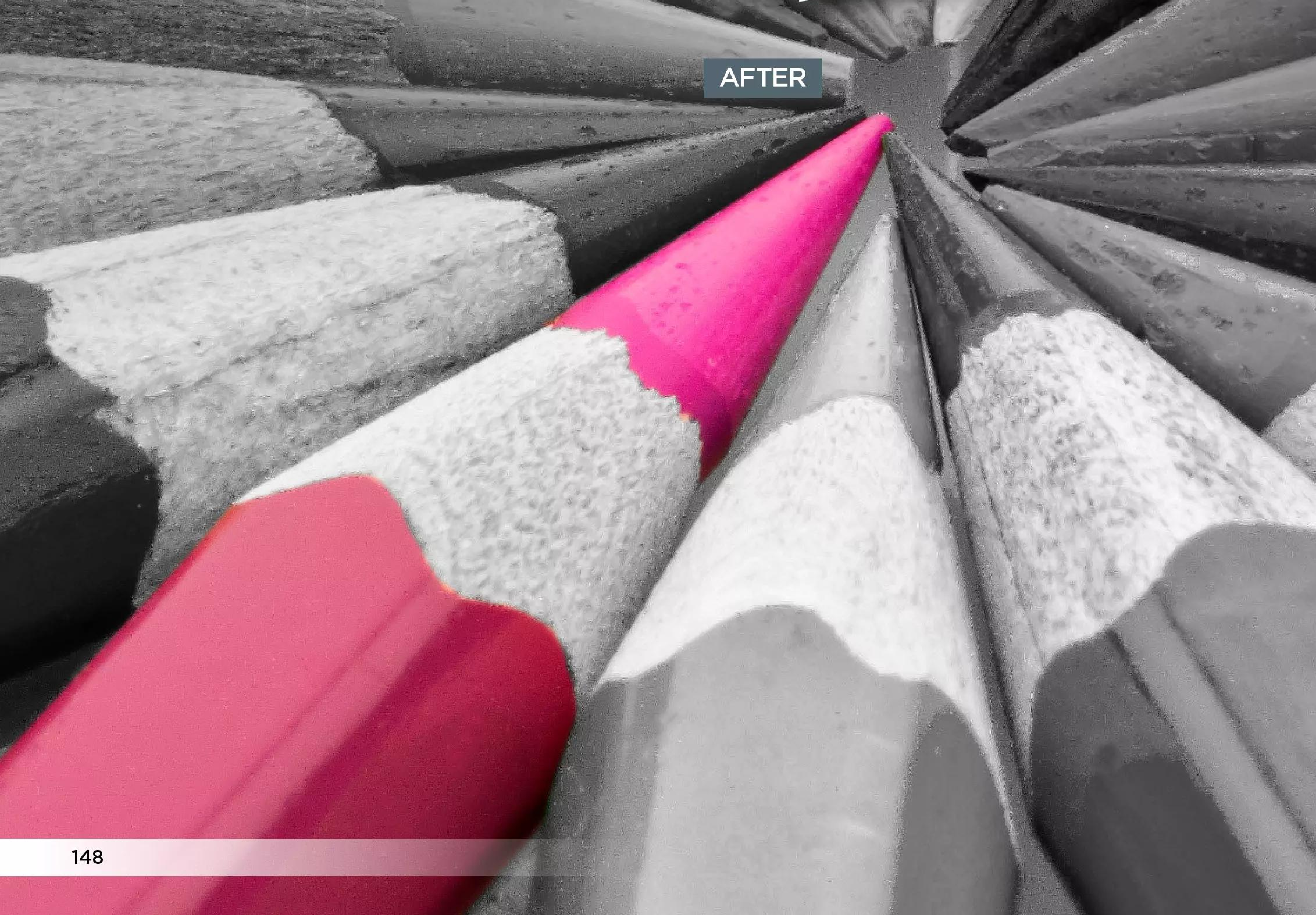
ADDING A SPLASH OF COLOUR TO YOUR BLACK AND WHITE IMAGES

It is quite popular to convert your images to black and white, but then to return part of the image to its original colour.

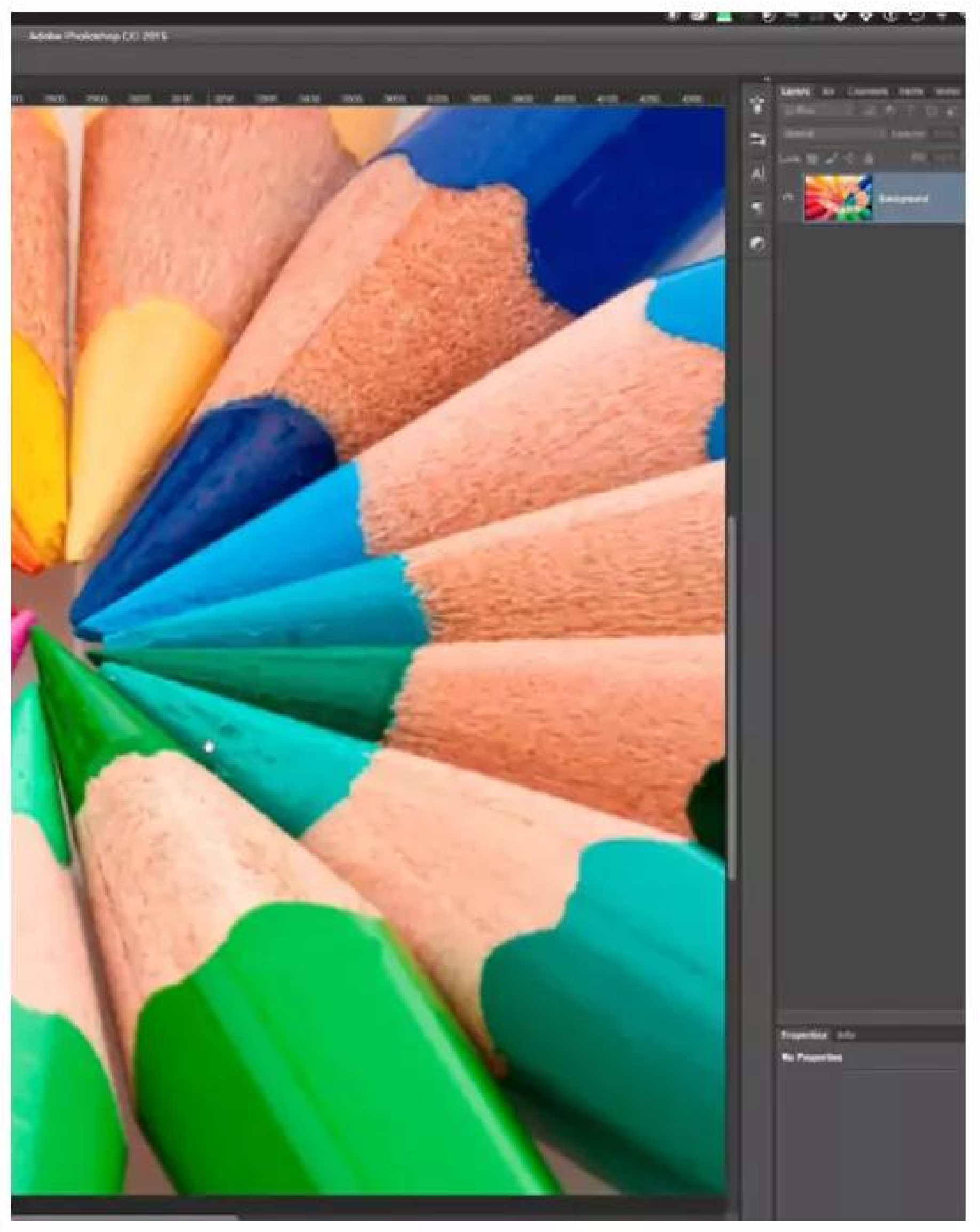
This is done to create a small splash of colour that is instantly picked out of its surroundings to draw the eye to that point. It is a simple and fun way to enhance your black and white images. We show you how it's done in this simple tutorial.



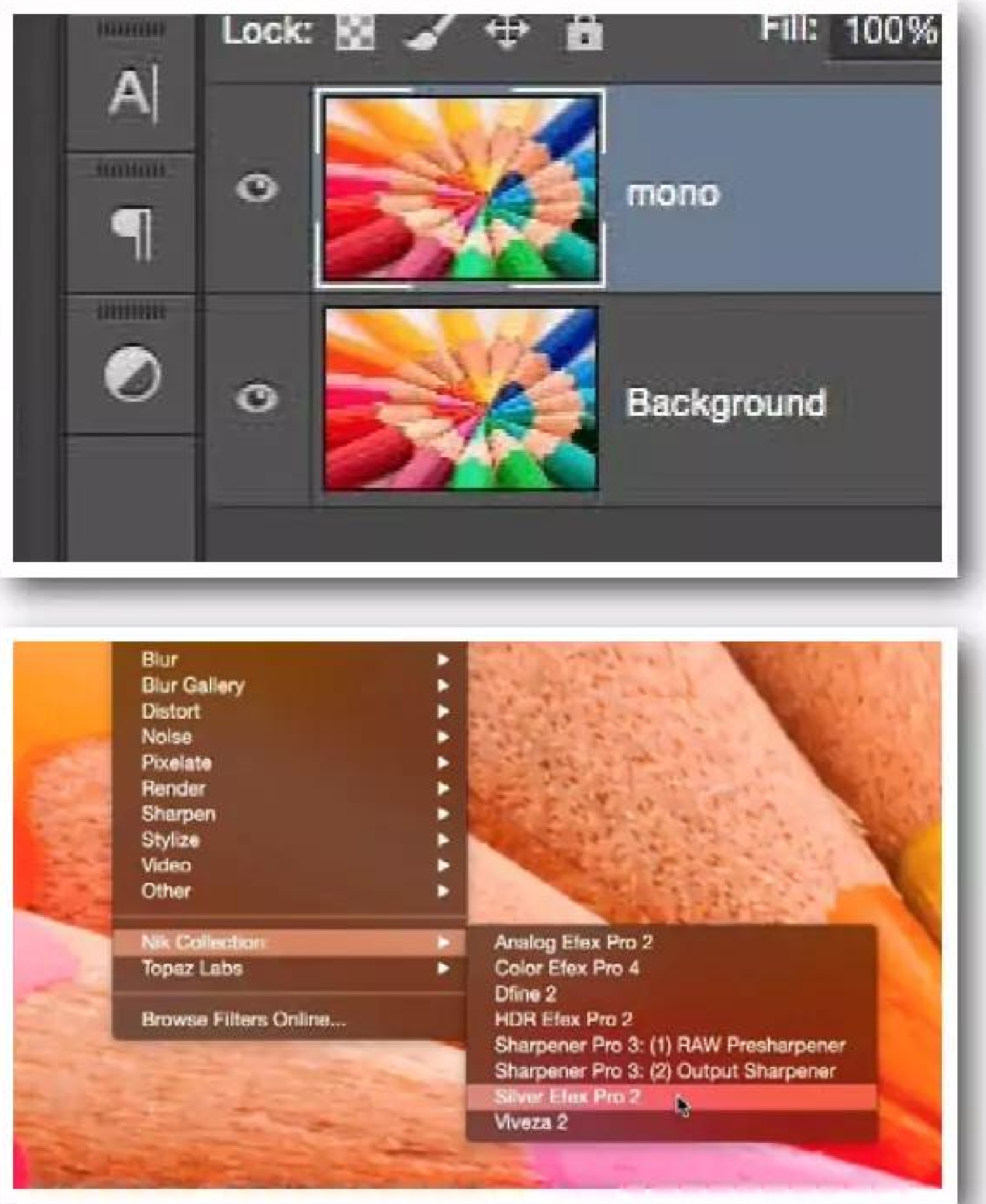
BEFORE



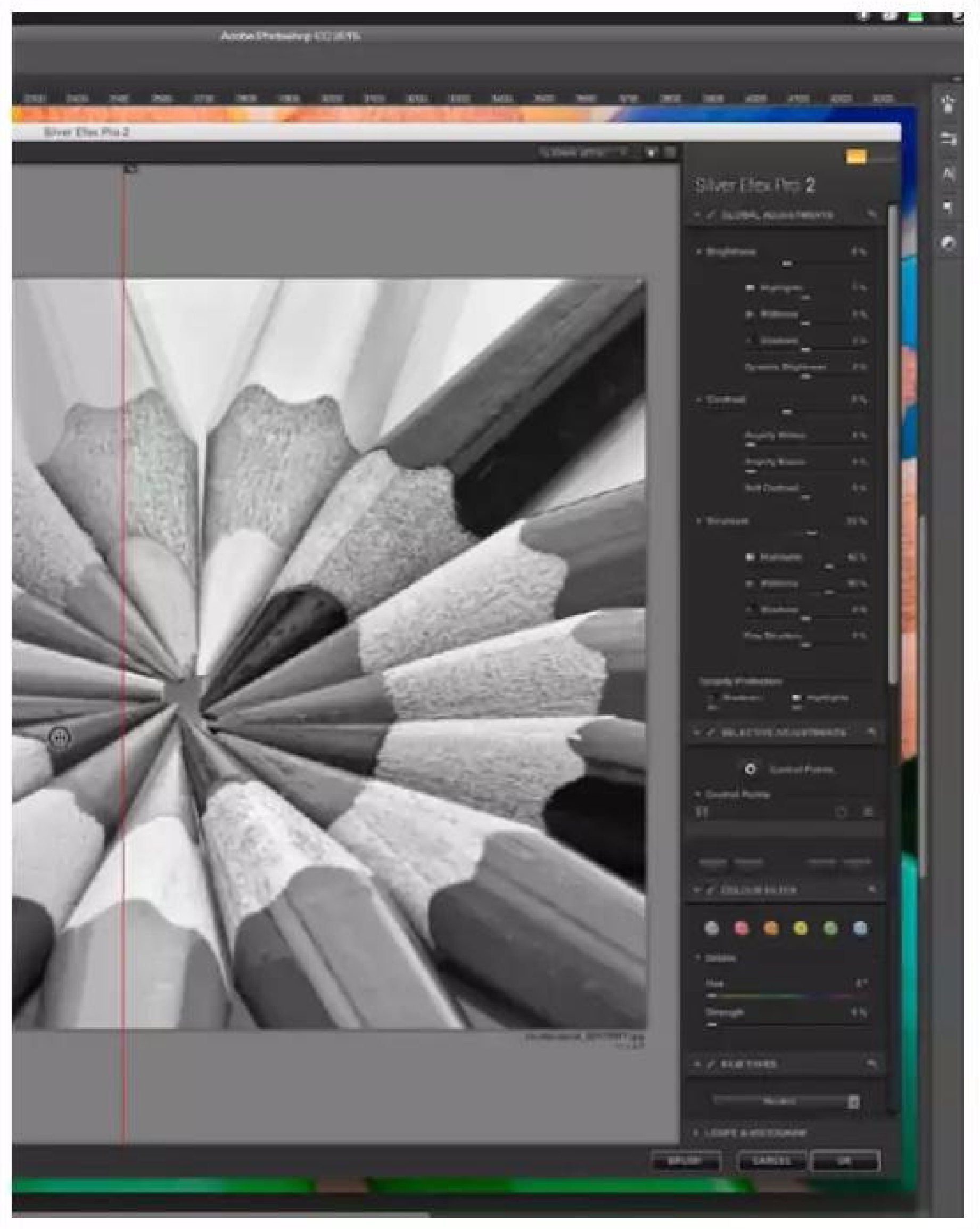
AFTER



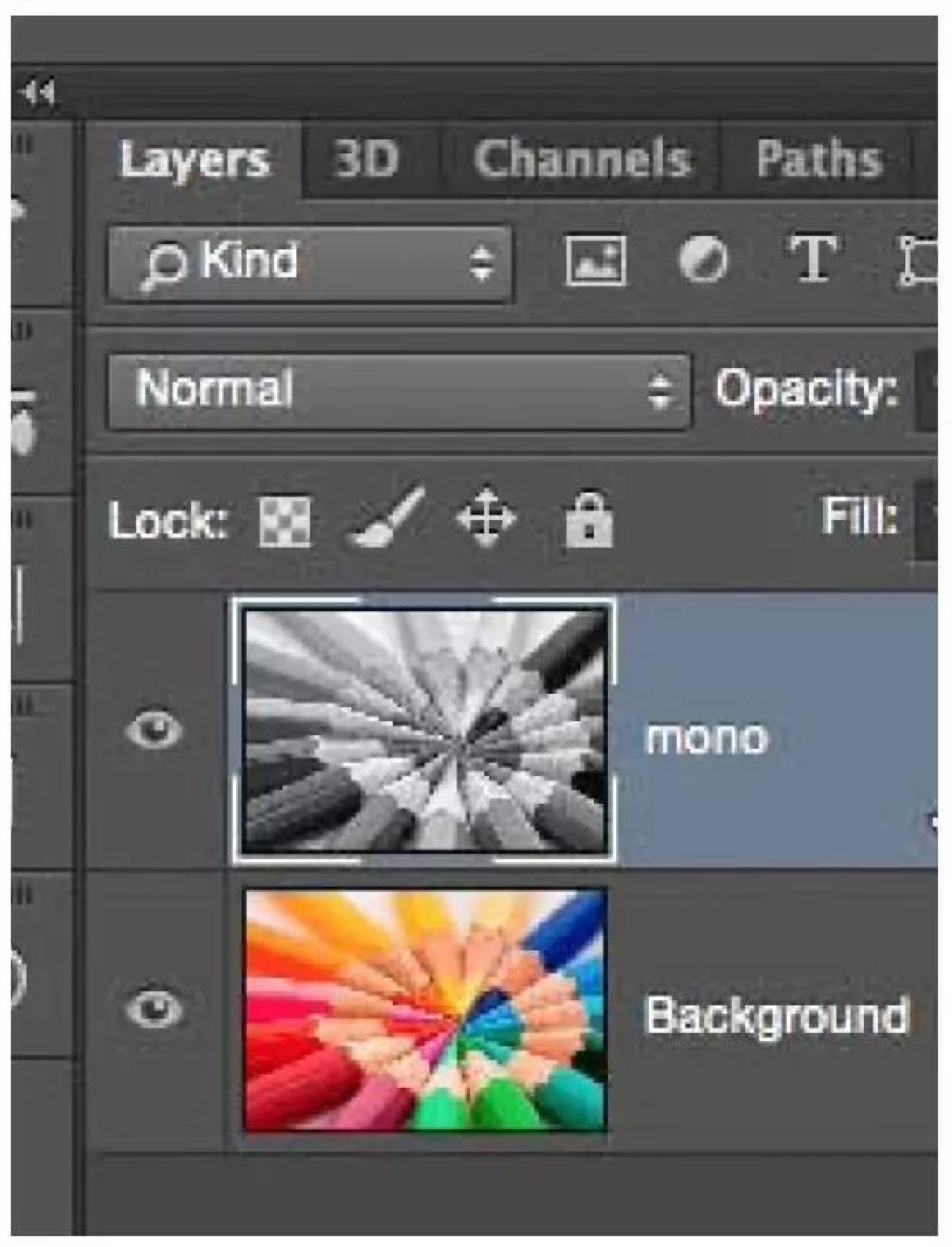
01 First of all, you will need a colour original. We have used a shot of some coloured pencils from Shutterstock. We have a great range of colours that should convert to black and white with no issue.


Lock:
Fill: 100%
mono
Background
Blur
Blur Gallery
Distort
Noise
Pixelate
Render
Sharpen
Stylize
Video
Other
Nik Collection
Topaz Labs
Browse Filters Online...
Analog Efex Pro 2
Color Efex Pro 4
Dfine 2
HDR Efex Pro 2
Sharpener Pro 3: (1) RAW Presharpener
Sharpener Pro 3: (2) Output Sharpener
Silver Efex Pro 2
Viveza 2

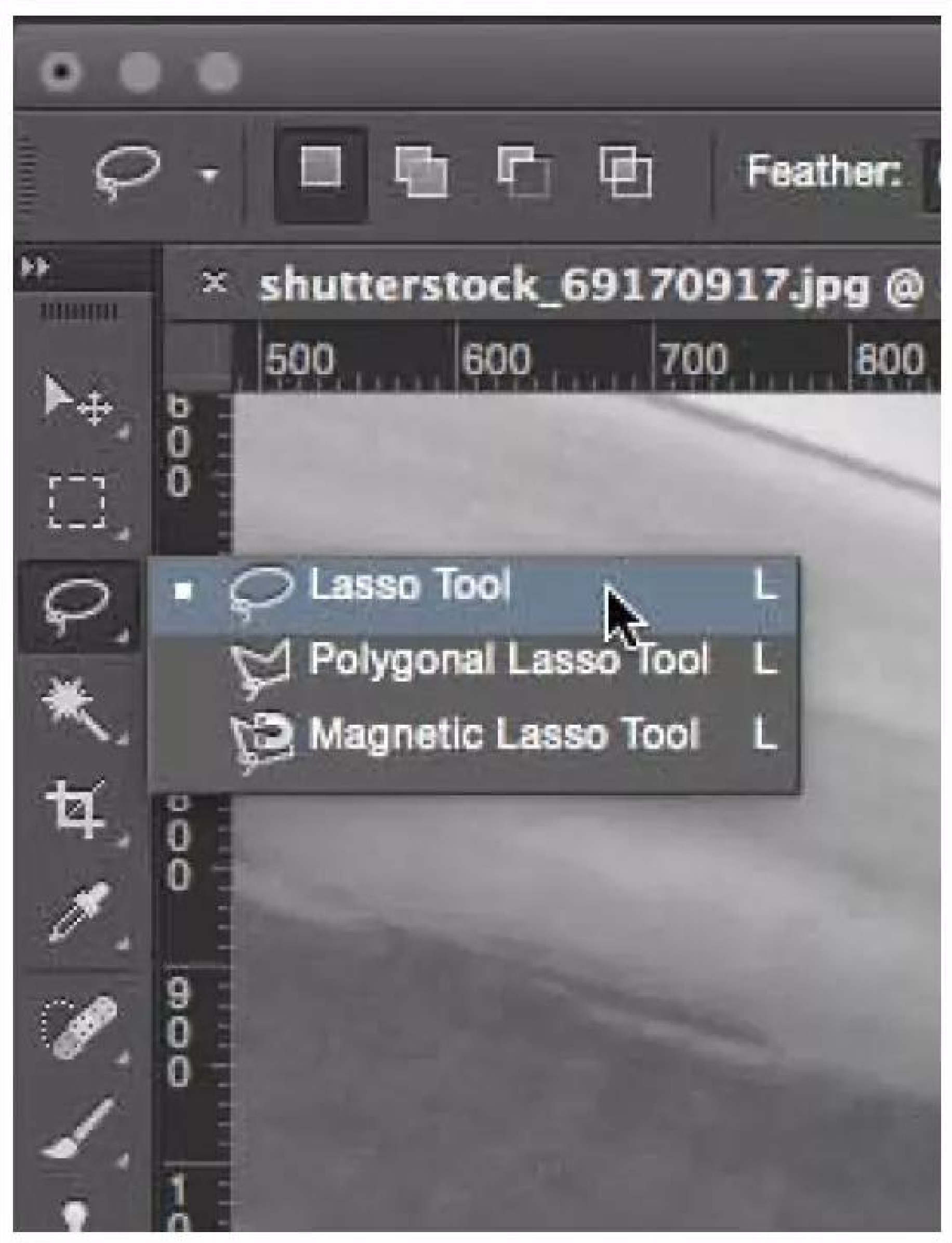
02 Create a duplicate image by pressing Cmd + J. Select that duplicate and convert it to mono using your favourite conversion technique. Let's face it, within these very pages, you have a few to choose from. We are using Silver Efex Pro plugin.



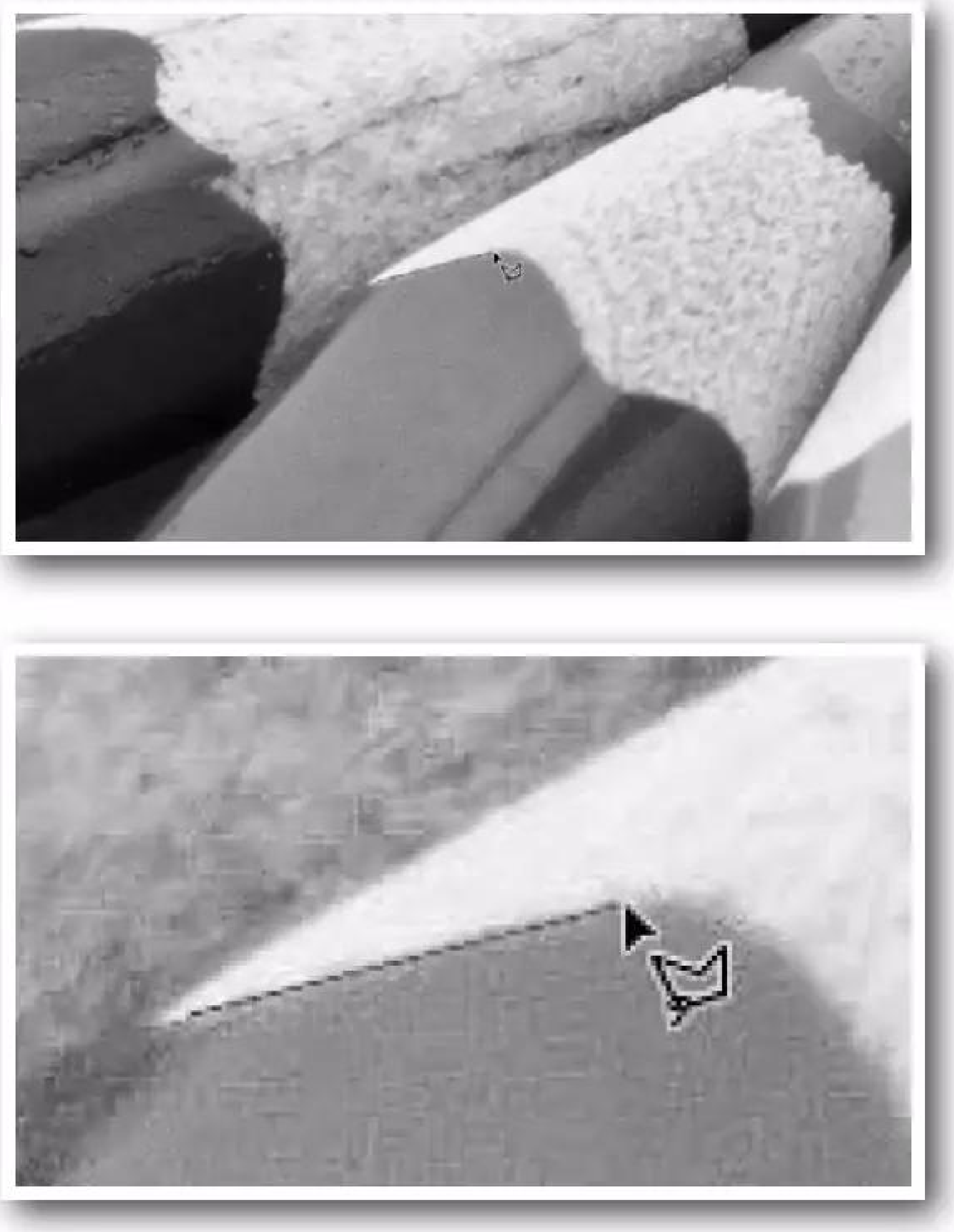
03 We do our conversion to mono. We've brought out a lot of mid-tone detail and added some contrast to make the image quite punchy, but keeping a good range of tones.


Layers
3D
Channels
Paths
Kind
Normal
Opacity:
Lock:
Fill:
mono
Background

04 Whichever method of conversion you have used, name the newly created black and white copy 'mono'. You now have you colour original, and on the layer above, you have your mono conversion.

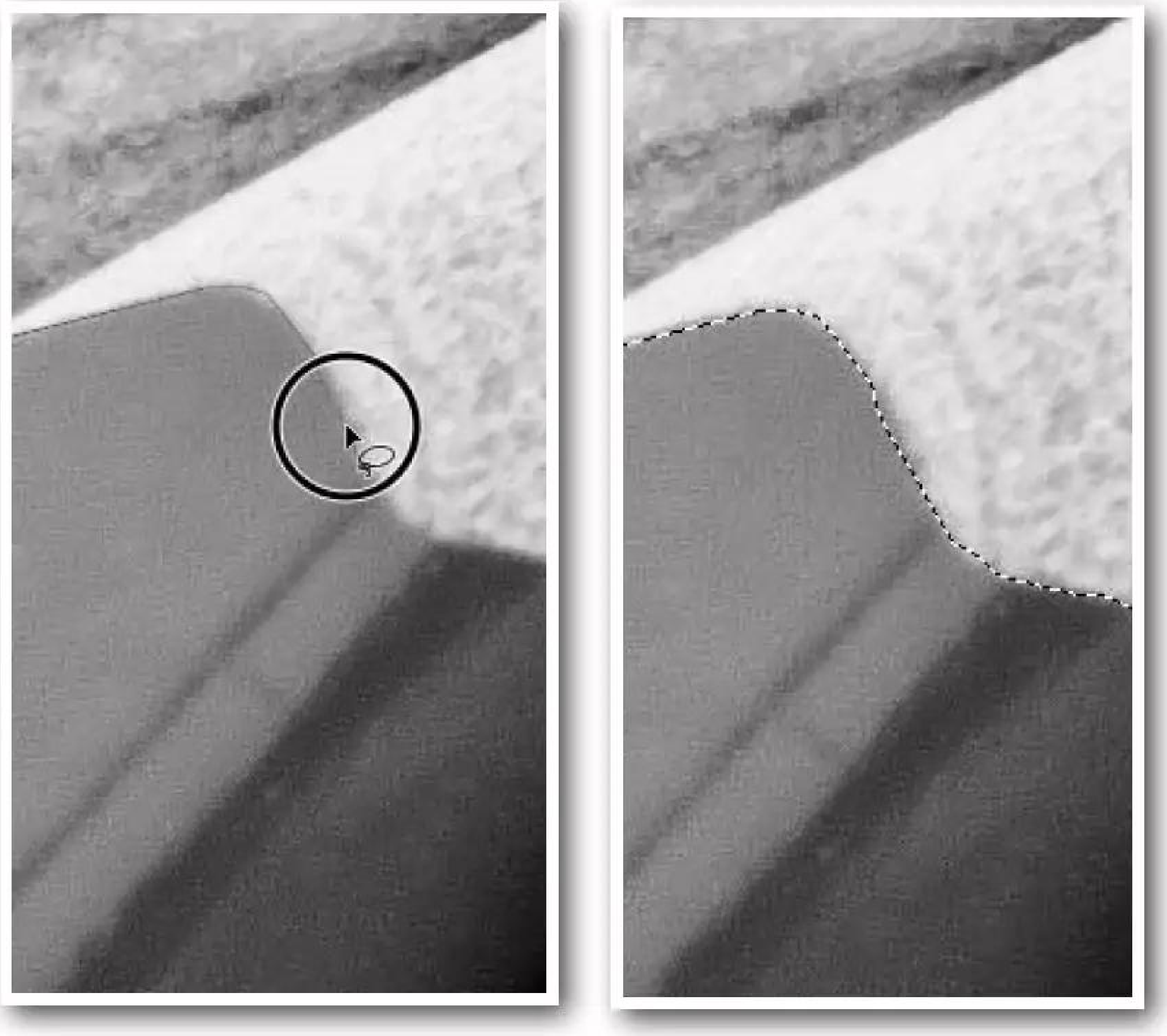

Feather:
shutterstock_69170917.jpg @
500
600
700
800
Lasso Tool L
Polygonal Lasso Tool L
Magnetic Lasso Tool L

05 Make sure the 'mono' layer is active and press L to bring up the Lasso Tool, or you can find it in the toolbar on the left of the screen. We will be using this tool to define an area of the image that will reappear in colour.

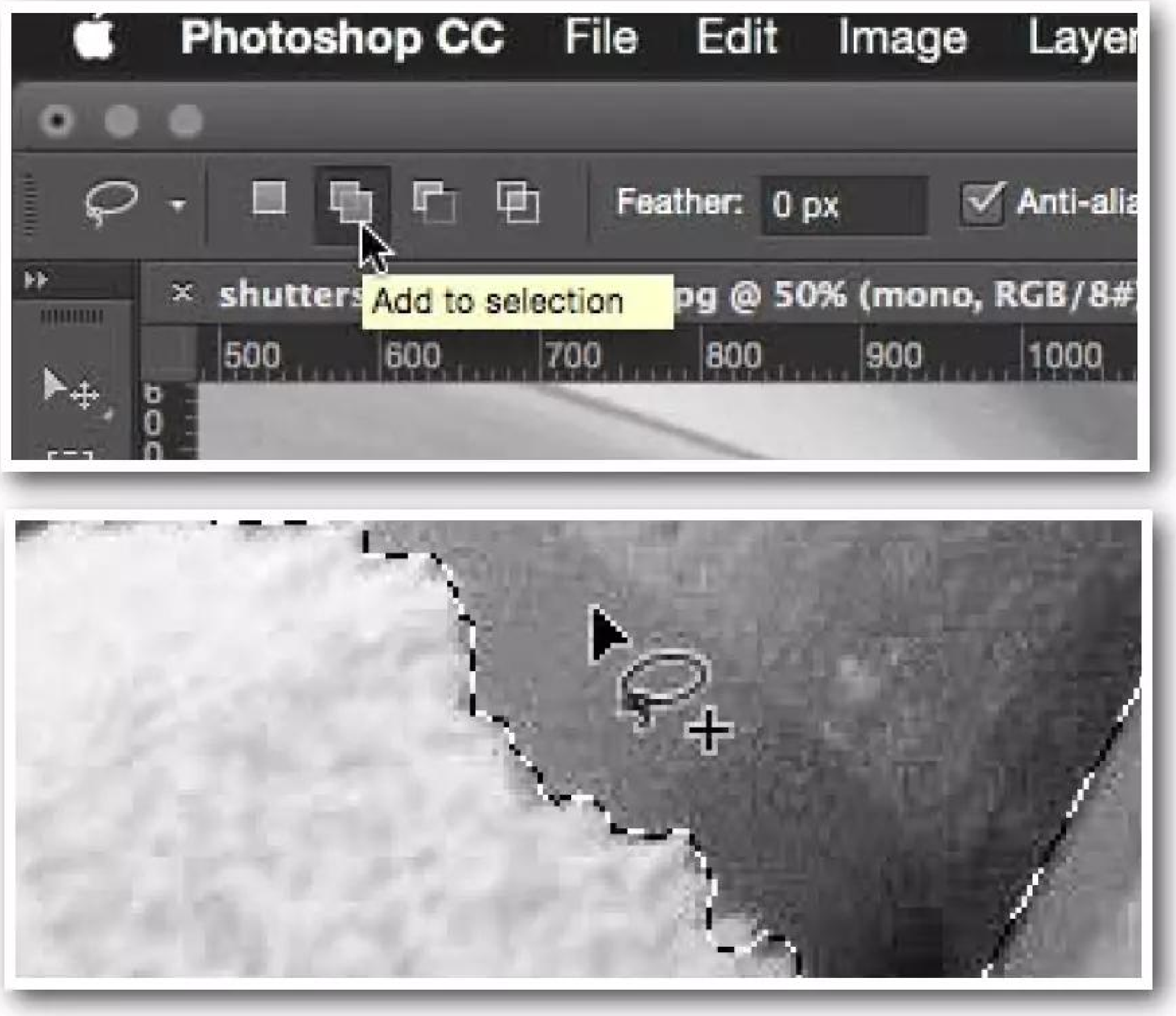


06 If you press Shift + Alt whilst you use the Lasso Tool on the mono image, you can automatically switch between the free-form drawing Lasso Tool by clicking and dragging the cursor...

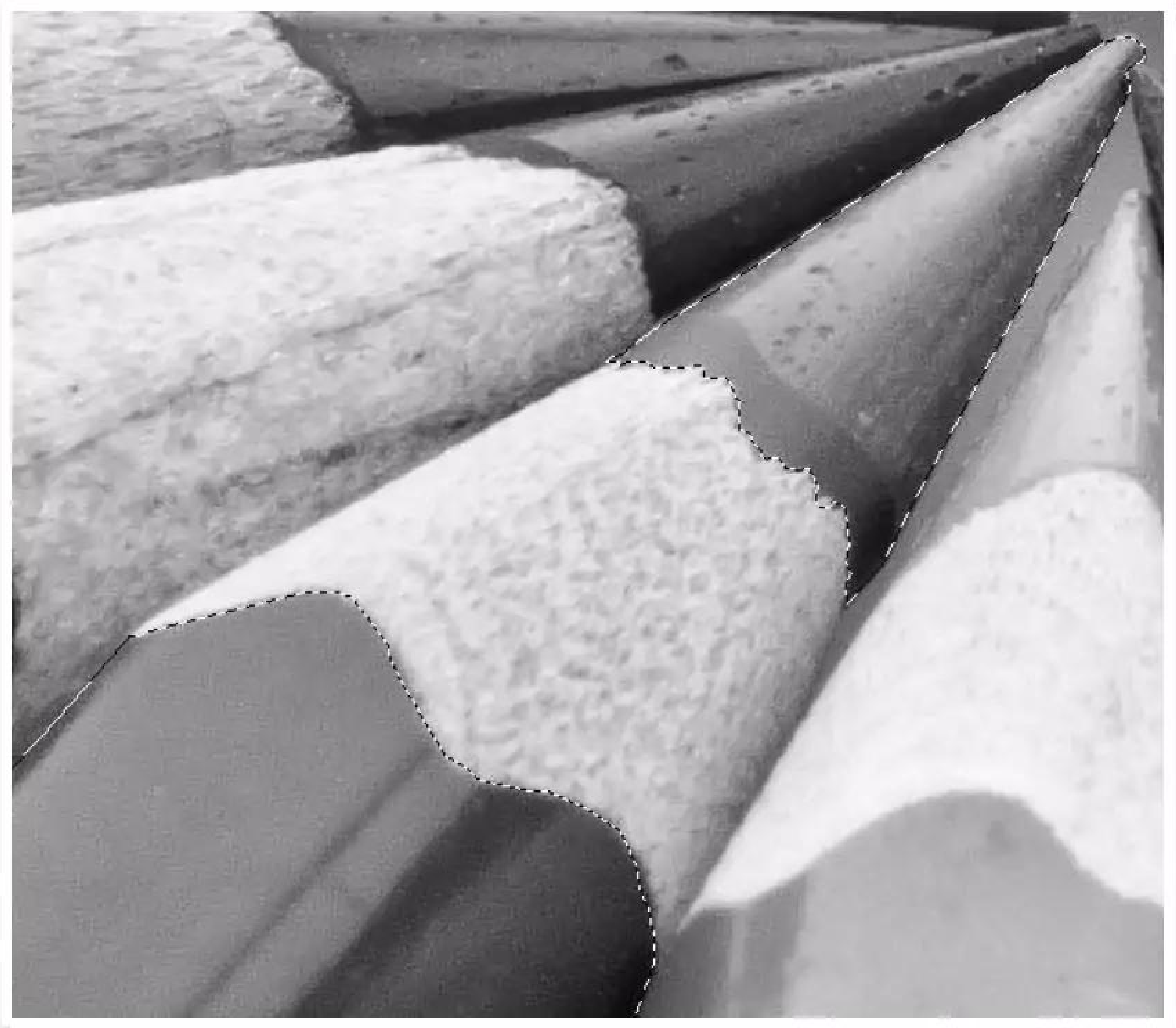
Selective colour



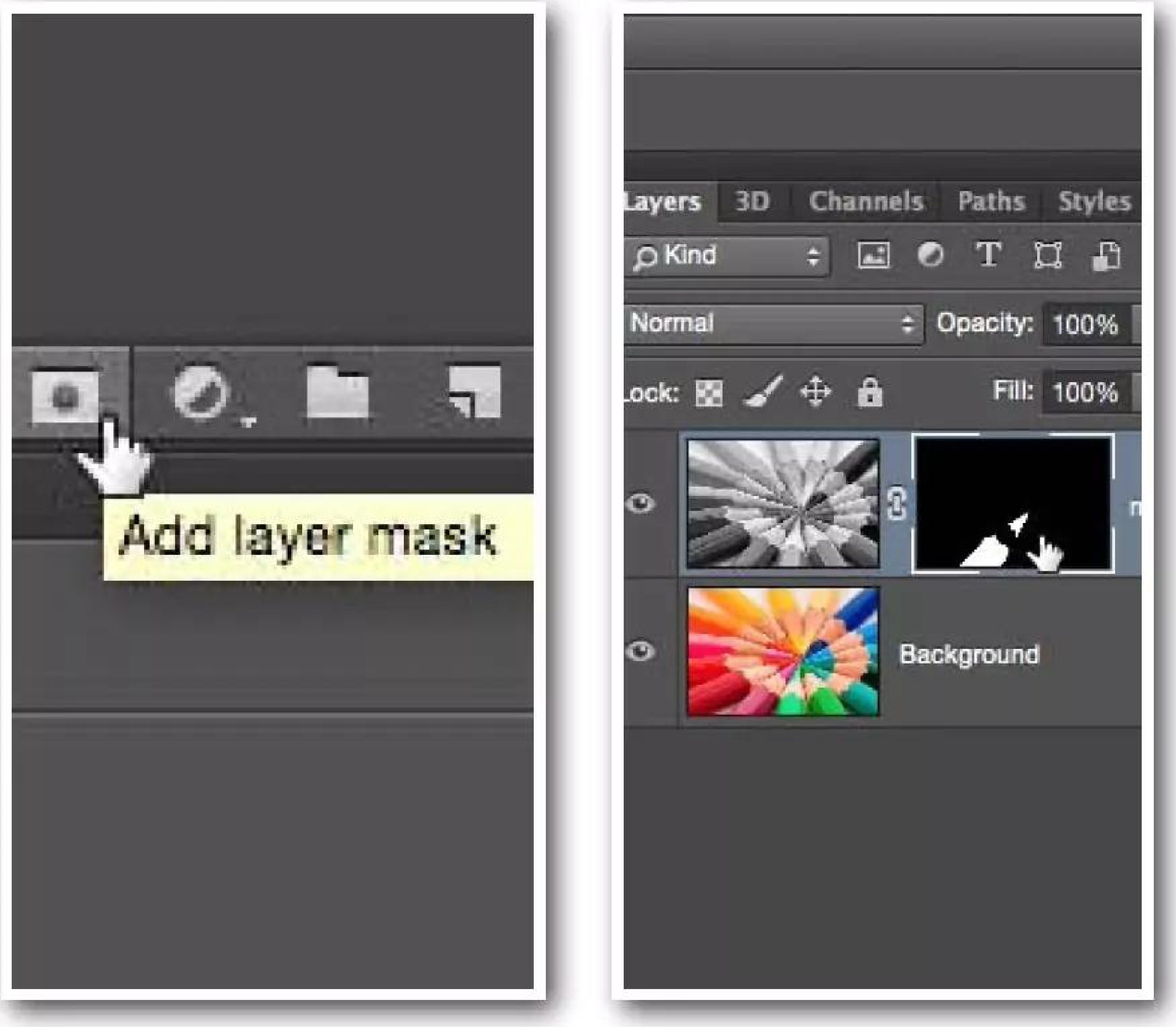
07 ...or you can use the Polygonal Lasso Tool, by just clicking and then selecting a new point and clicking again. Keep holding Shift + Alt, select the main body of one pencil. When you join up the selection, you will see the marching ants appear.


Photoshop CC
File
Edit
Image
Layer
Feather:
0 px
Anti-alia
Add to selection
shutters
pg @ 50% (mono, RGB/8#)
500
600
700
800
900
1000

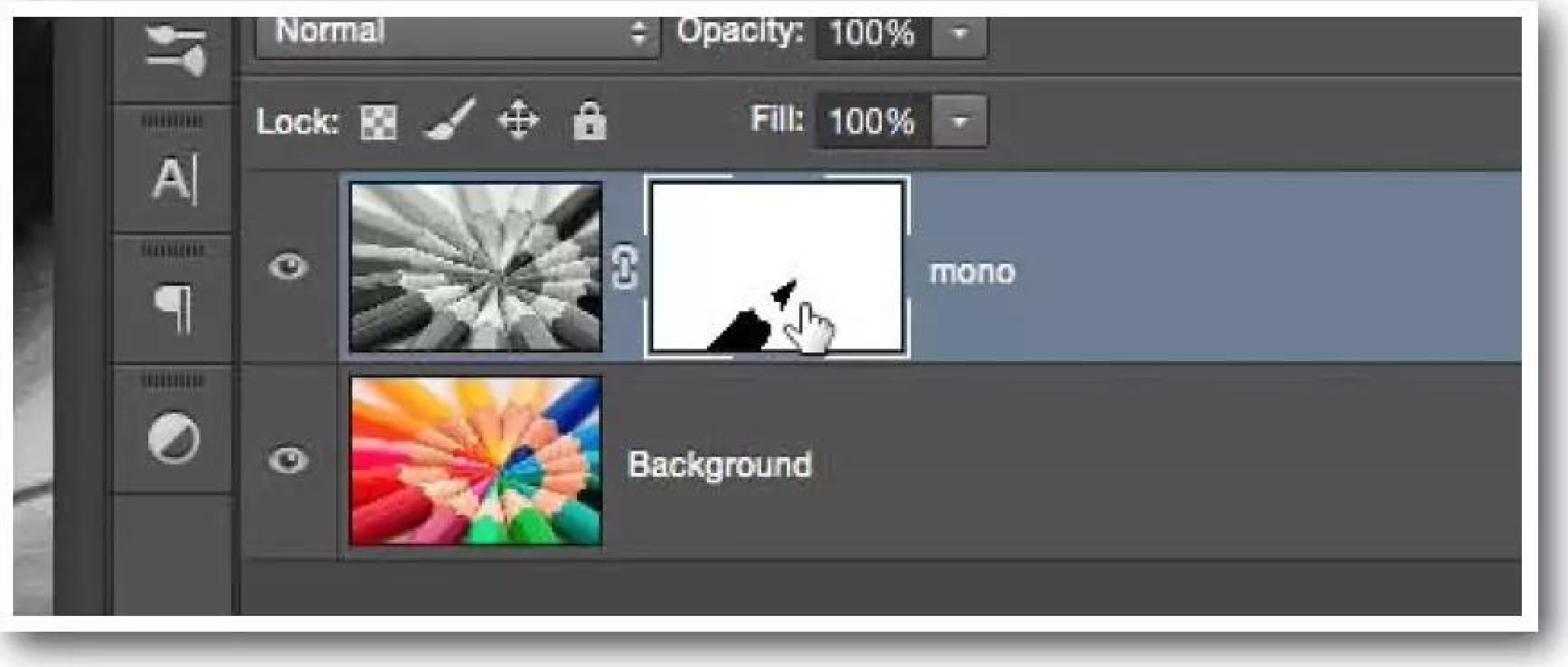
08 Now, Go to the content menu at the top left of the screen and choose Add to selection. Your cursor will now have a small + symbol, indicating it will now be able to add another selection to the one you have already.

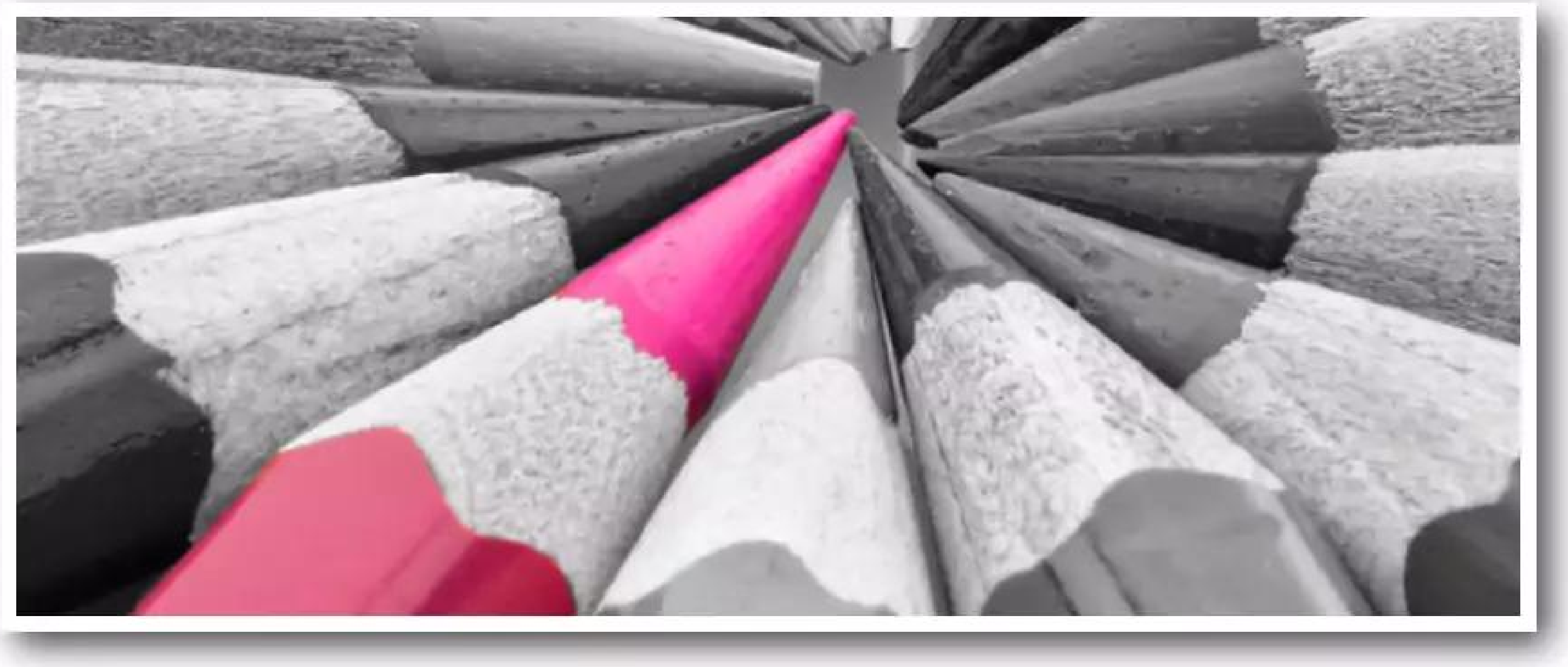


09 Using the method from step 6, add the pencil tip to the selection. Again, when you join up the tip selection, marching ants will show you now have the pencil body and tip selected.

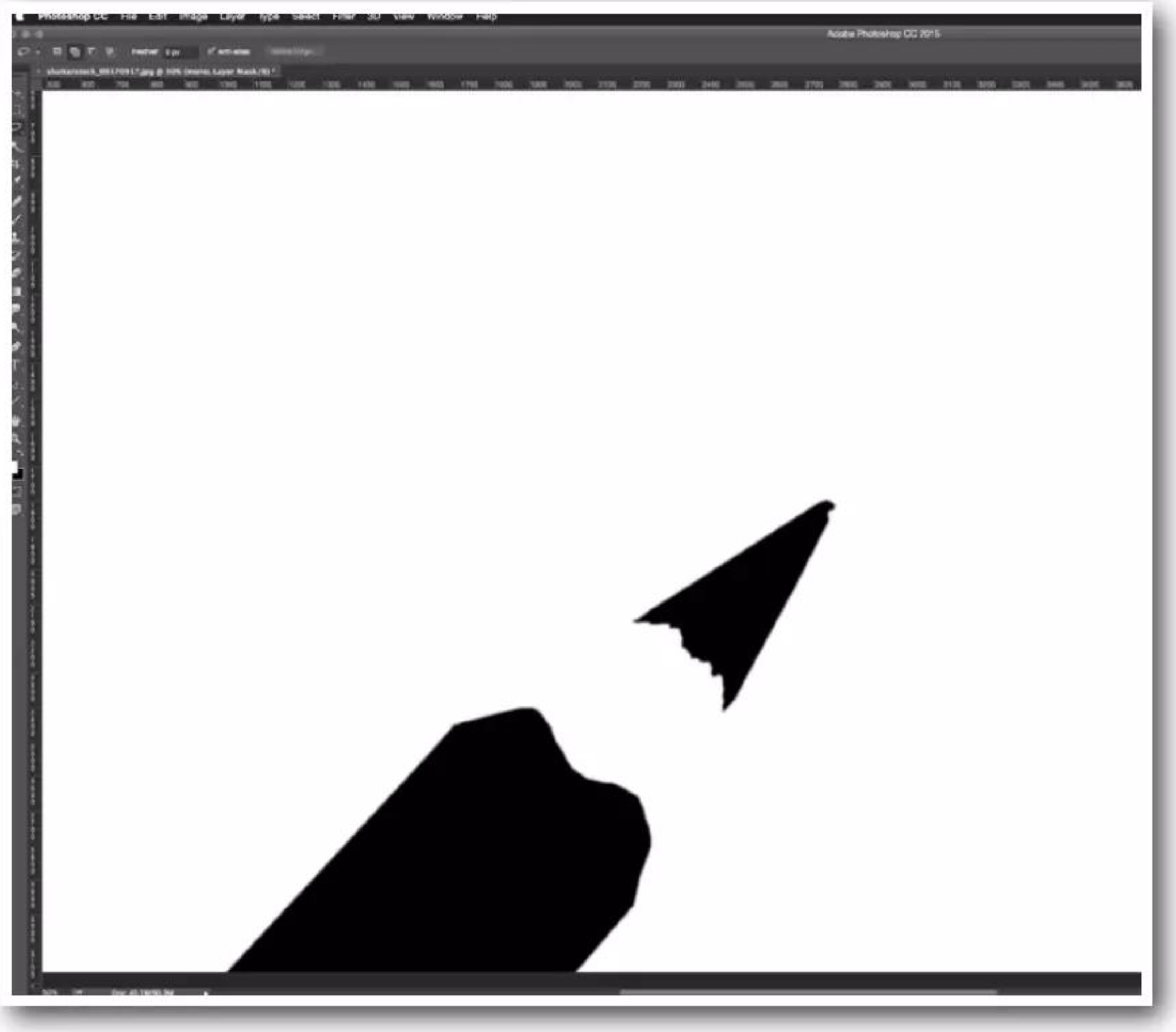

Add layer mask
Layers
3D
Channels
Paths
Styles
Kind
Normal
Opacity: 100%
Lock:
Fill: 100%
Background

10 Now we can create a mask. With the 'mono' layer still active, go to the bottom of your layers palette and click on the Add layer mask button. A layer mask will be added to the 'mono' layer in the shape of your selection.

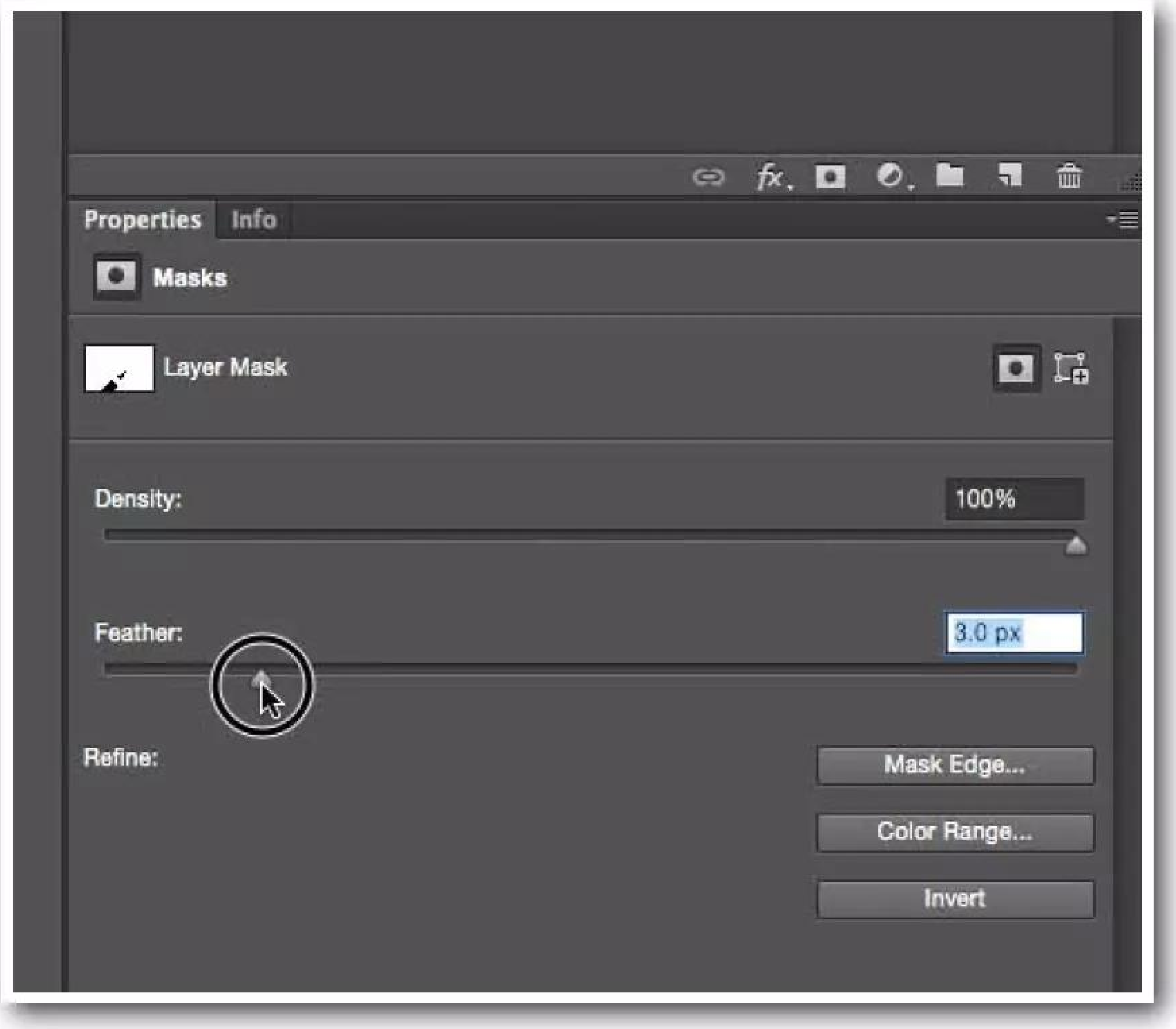

Normal
Opacity: 100%
Lock:
Fill: 100%
mono
Background



11 The mask needs to be white, with the actual selection filled in black. If it is the other way around, just press Cmd + I to invert the colours of the mask. You'll know when it's right when you see only one pencil in colour. The red one in our case. The mask on the 'mono' layer is allowing part of the coloured original to show through.



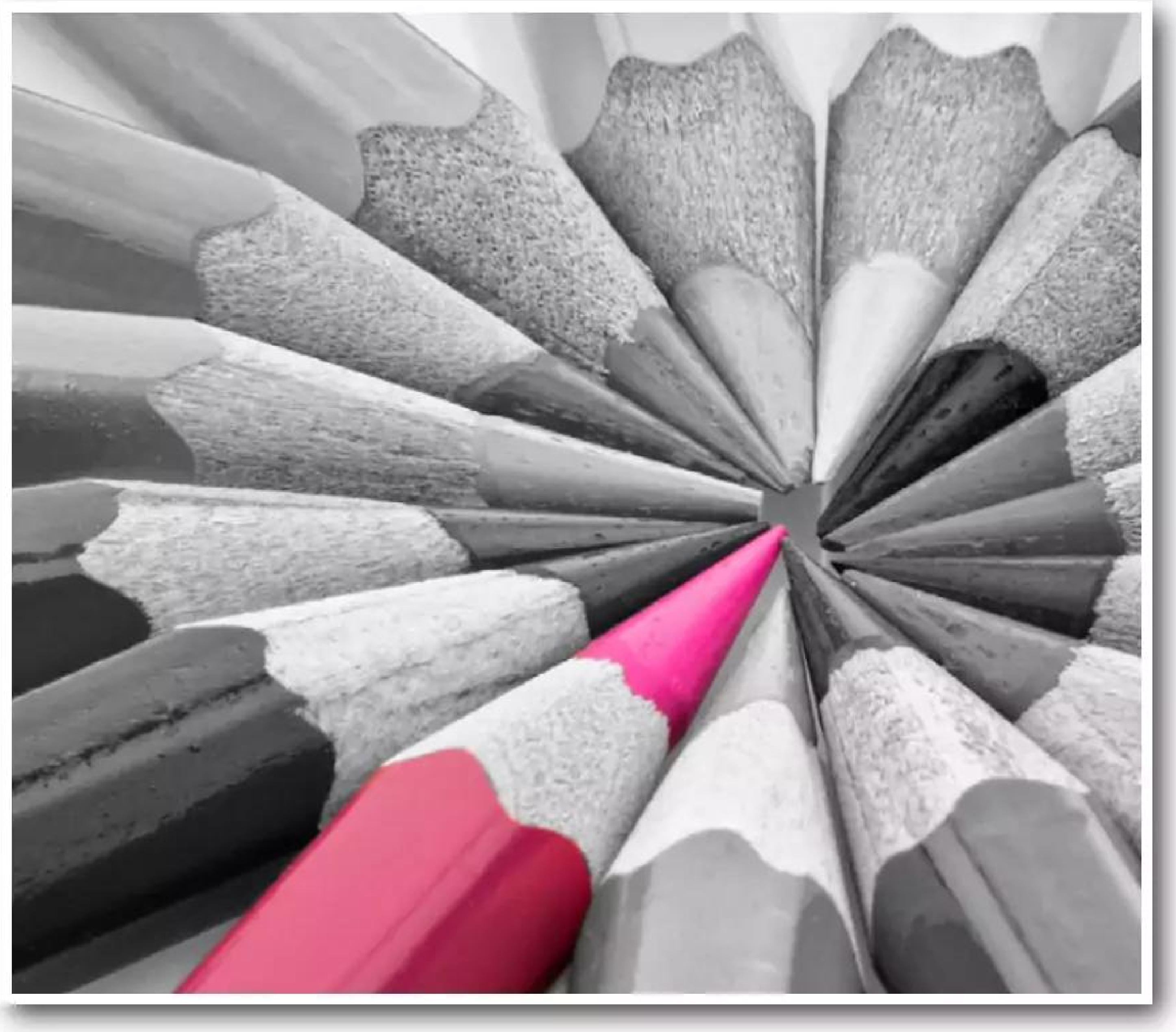
12 If you Alt + Click on the layer mask, you can view the mask in isolation. Press Alt + Click on the mask thumbnail again to go back to your main view.


Properties
Info
Masks
Layer Mask
Refine:
Mask Edge...
Color Range...
Invert

Density: 100%

Feather: 3.0 px

13 Click on the layer mask thumbnail to make sure it is active and then click on the properties panel and add a small amount of feather to the mask. About 3 pixels is enough to soften the hard edges of the mask.



14 There is your black and white image with a splash of colour. Now you know how to do it. How about converting more of your favourite image to mono and finding a cool, colourful, point of interest to 'pop' out of your shot.

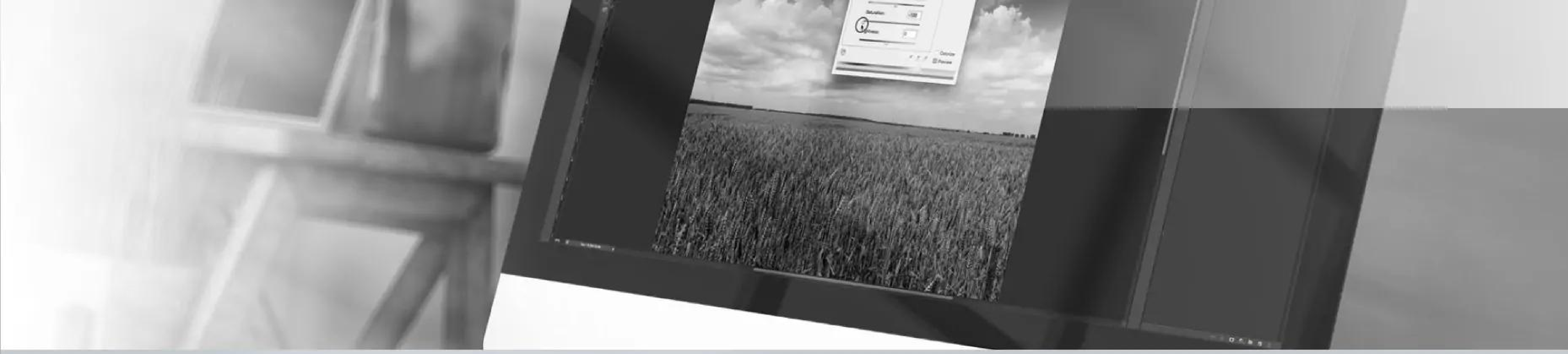
AFTER
BEFORE

Sepia toning

GIVE YOUR PHOTOS THAT ANTIQUE LOOK WITH THESE SIMPLE SEPIA TONING TECHNIQUES

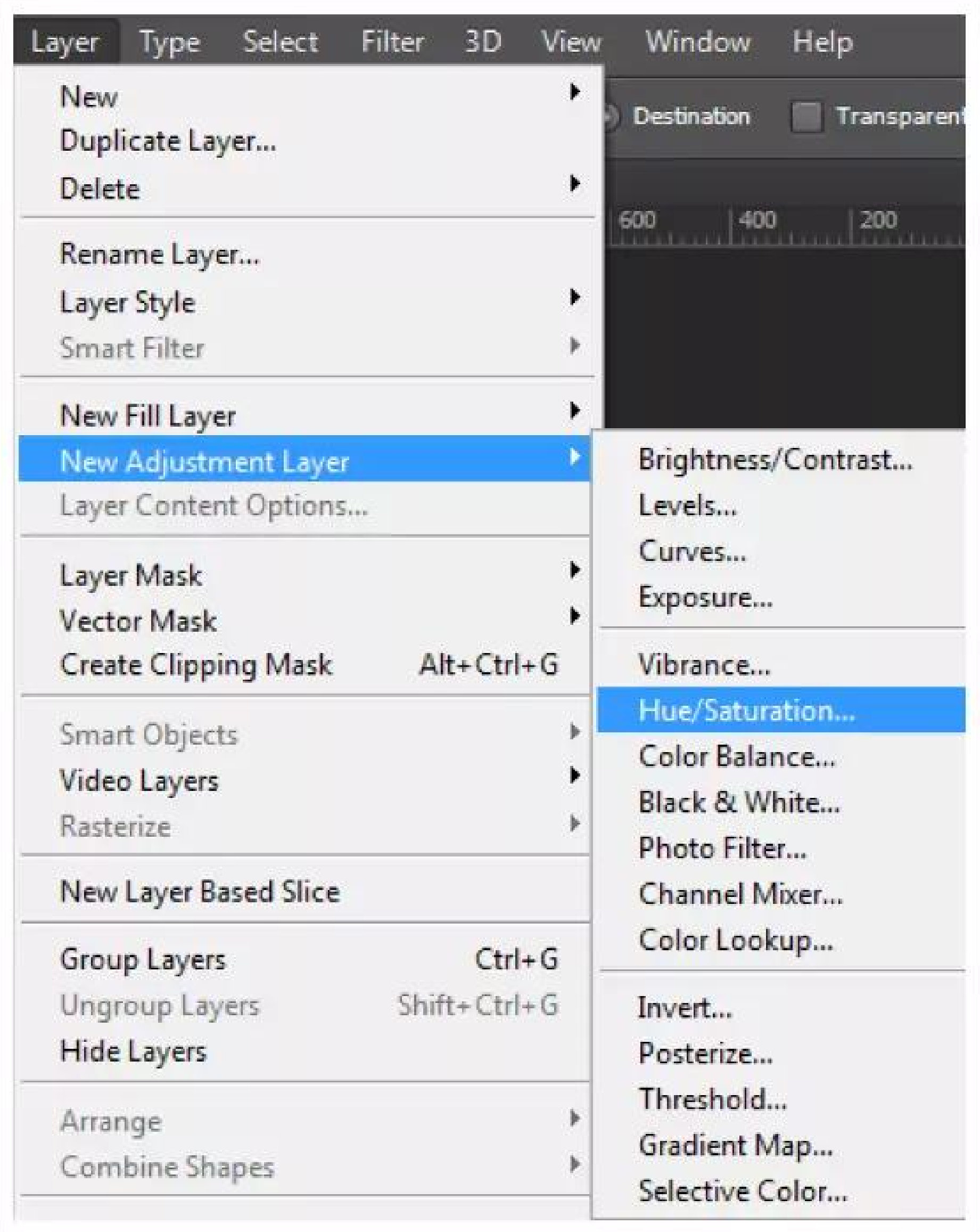
There are plenty of tutorials out there showing you how to restore old photos, but what if you want to do the exact opposite? How can you take a modern full-colour digital photograph and make it look like it was shot 80 years ago?

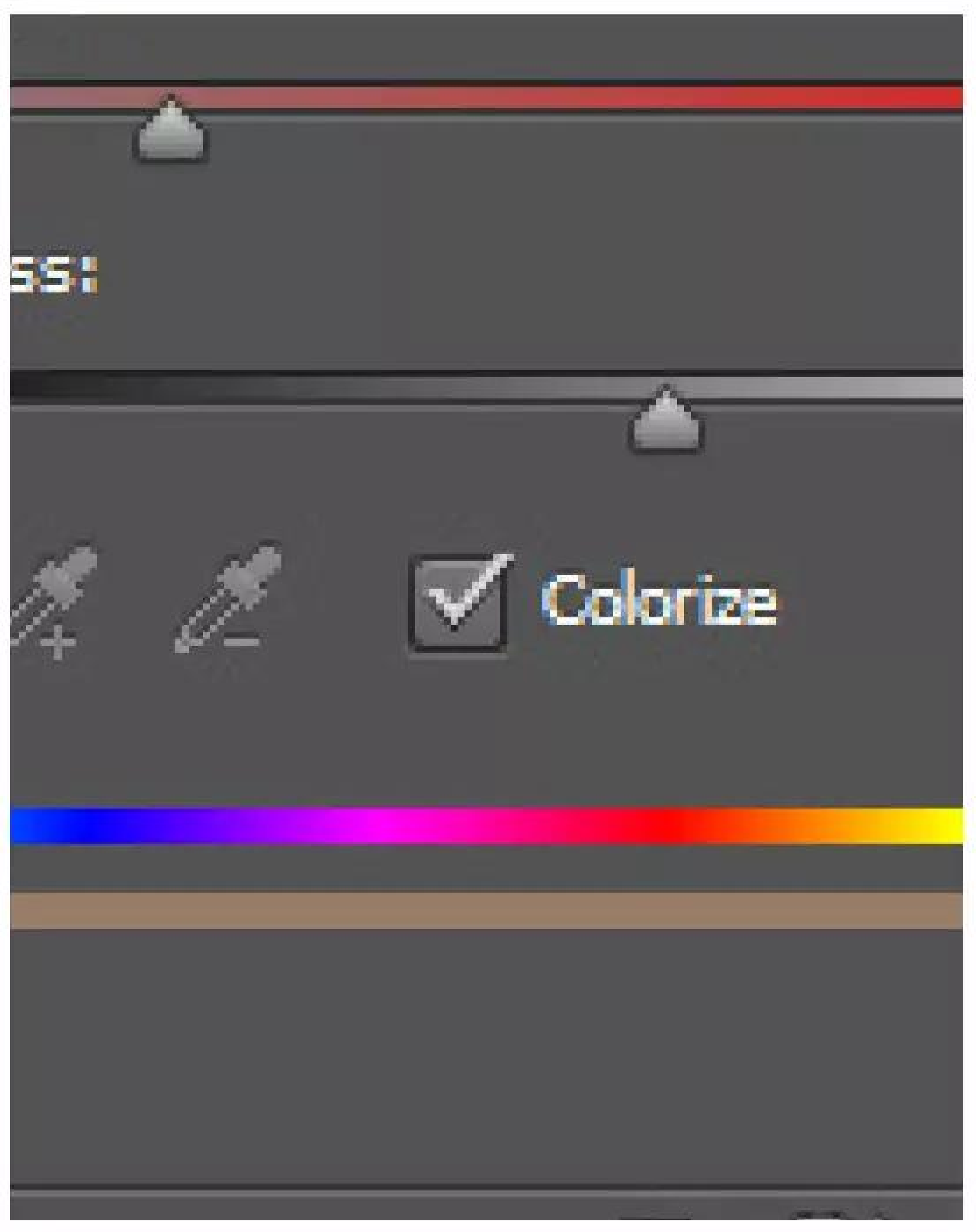
The classic look for old photographs is something called "sepia toning". Sepia toned photographs have a distinctive yellow-brown colour. It was popular up until at least the 1930s, so you've probably seen examples of it in old photo albums. Any photos of your grandparents or great-grandparents in their youth will probably be sepia toned. Here's a photo of my uncle and his friend as children, probably taken in Nottingham around 1935, so it's 80 years old.

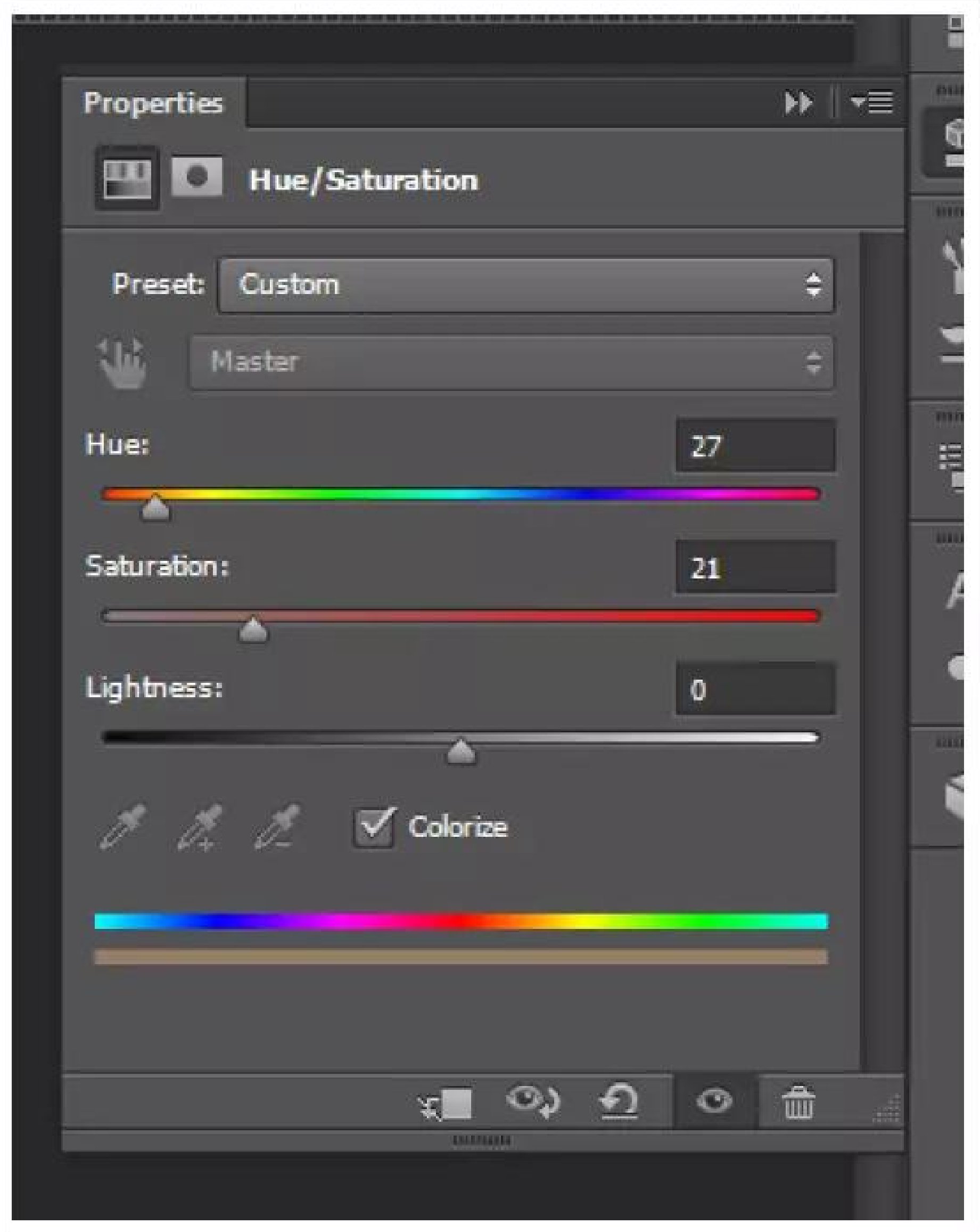


1 The Hue/Saturation method

This sepia effect is quite easy to reproduce using any of the popular image editing programs. We're going to use Adobe Photoshop CS6 of course, but the same technique will work in any program that has a hue and saturation control.


Layer
Type
Select
Filter
3D
View
Window
Help
New
Duplicate Layer...
Delete
Rename Layer...
Layer Style
Smart Filter
New Fill Layer
New Adjustment Layer
Layer Content Options...
Layer Mask
Vector Mask
Create Clipping Mask Alt+Ctrl+G
Smart Objects
Video Layers
Rasterize
New Layer Based Slice
Group Layers Ctrl+G
Ungroup Layers Shift+Ctrl+G
Hide Layers
Arrange
Combine Shapes
Destination
Transparent
Brightness/Contrast...
Levels...
Curves...
Exposure...
Vibrance...
Hue/Saturation...
Color Balance...
Black & White...
Photo Filter...
Channel Mixer...
Color Lookup...
Invert...
Posterize...
Threshold...
Gradient Map...
Selective Color...



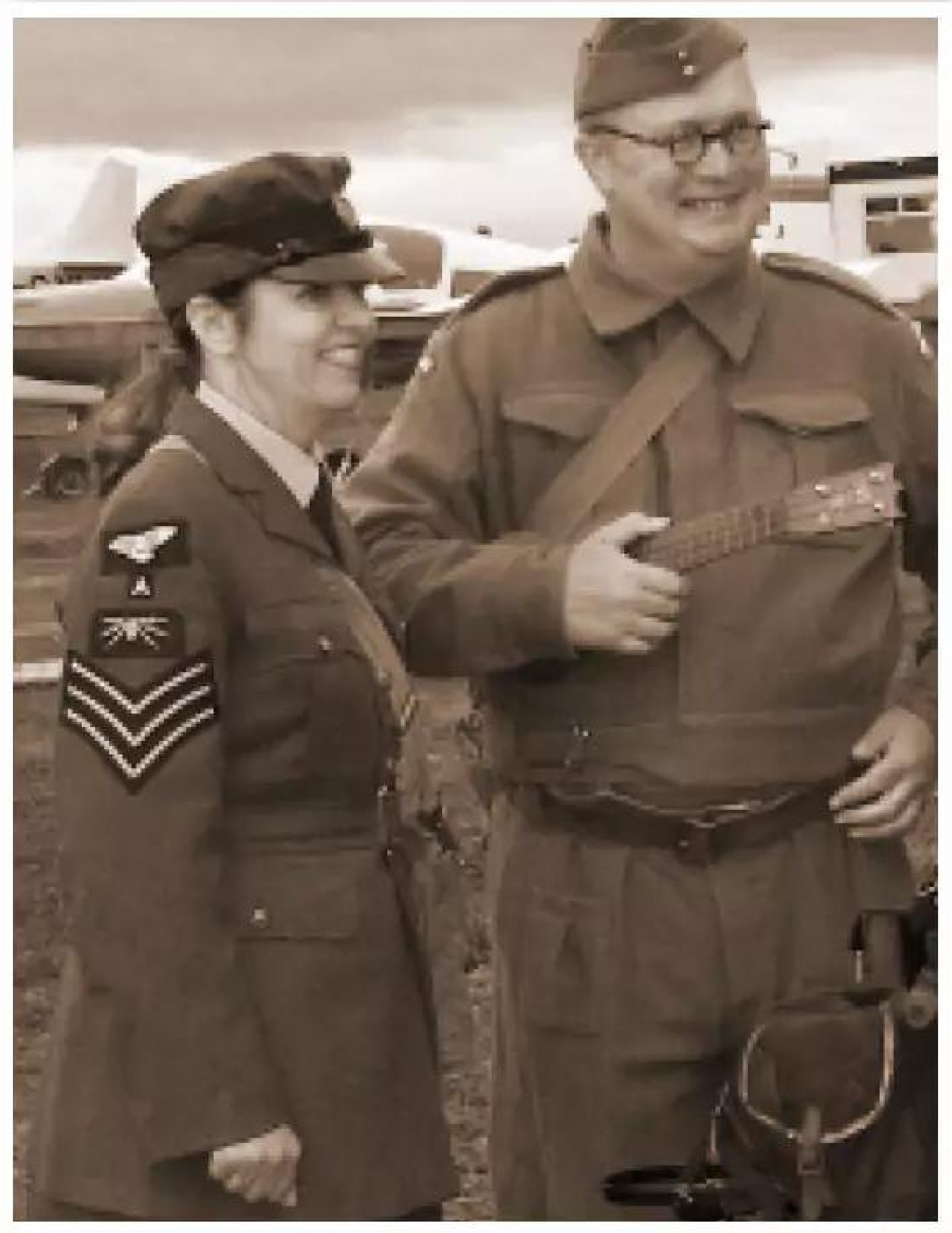

Properties
Hue/Saturation

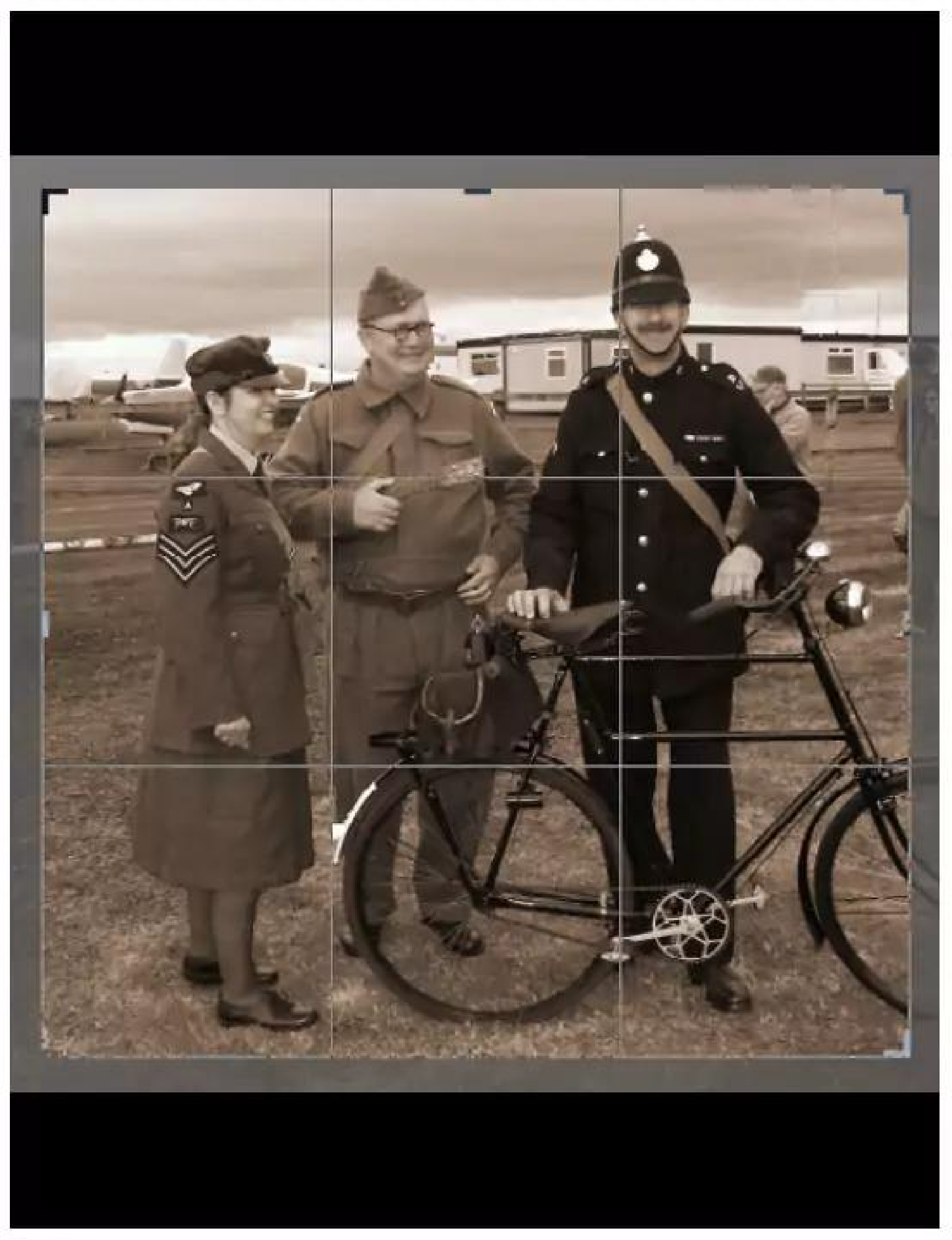
Preset: Custom
Master
Hue: 27
Saturation: 21
Lightness: 0
☑ Colorize

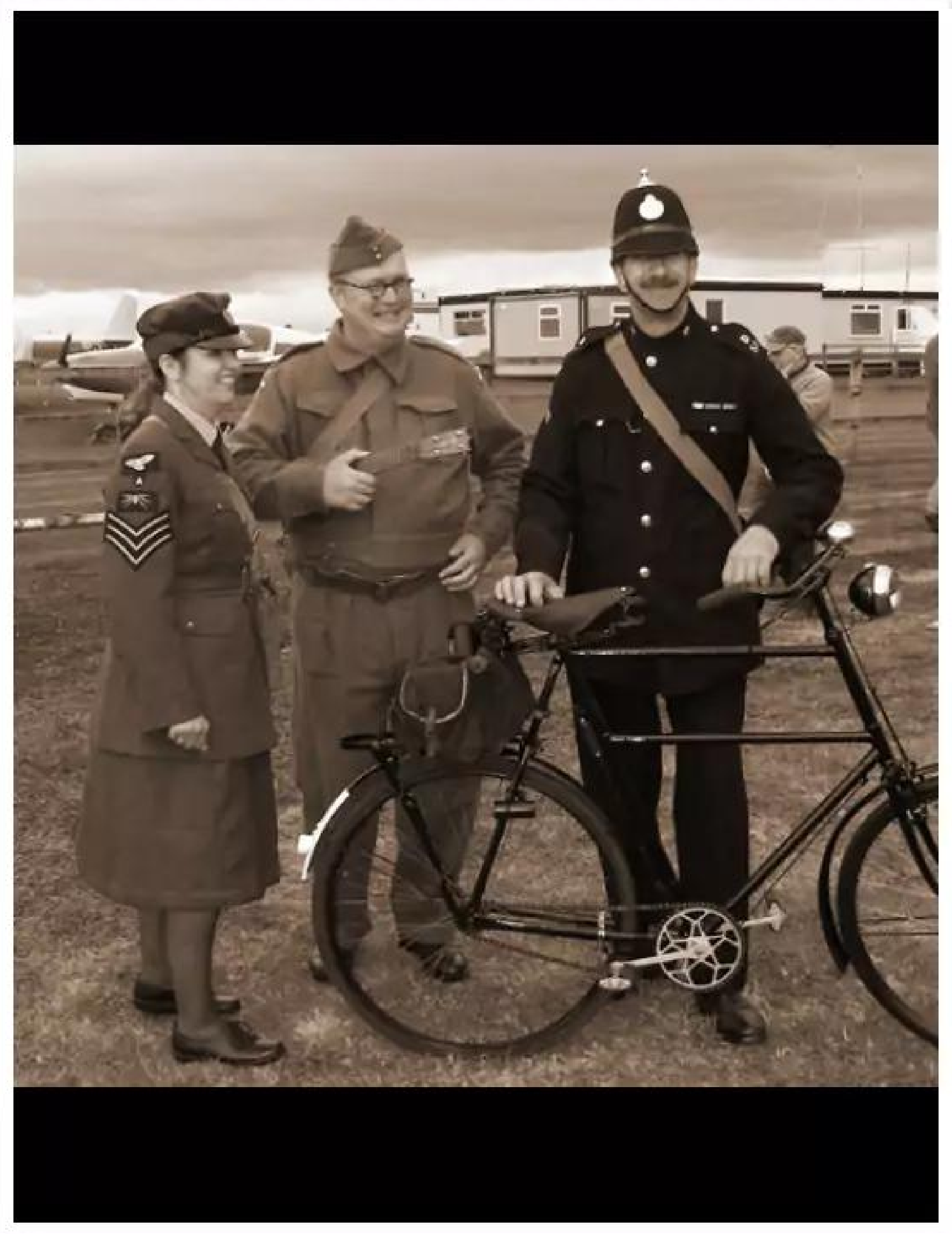
01 Applying the sepia toning effect is easy. Simply use a Hue/Saturation Adjustment Layer, either from the Layer > New Adjustment Layer menu or from the button on the Adjustment palette. Alternatively, select Hue/Saturation from the Image > Adjustment menu.

02 Firstly, check the box marked Colorize. This changes the range of the sliders from centred with positive and negative values to ones with only positive values and zero on the left.

03 Recommended values for authentic-looking sepia tone are a Hue setting of 27 and a Saturation of 21.







04 The values you've just applied should now have your image looking much more like a period photograph.

05 Cameras of the 1940s usually used 120/220 roll film with a square aspect ratio, and a quick crop to mimic this also lets us remove the woman in the obviously modern hoodie on the right, although the Portacabins in the background will have to stay.

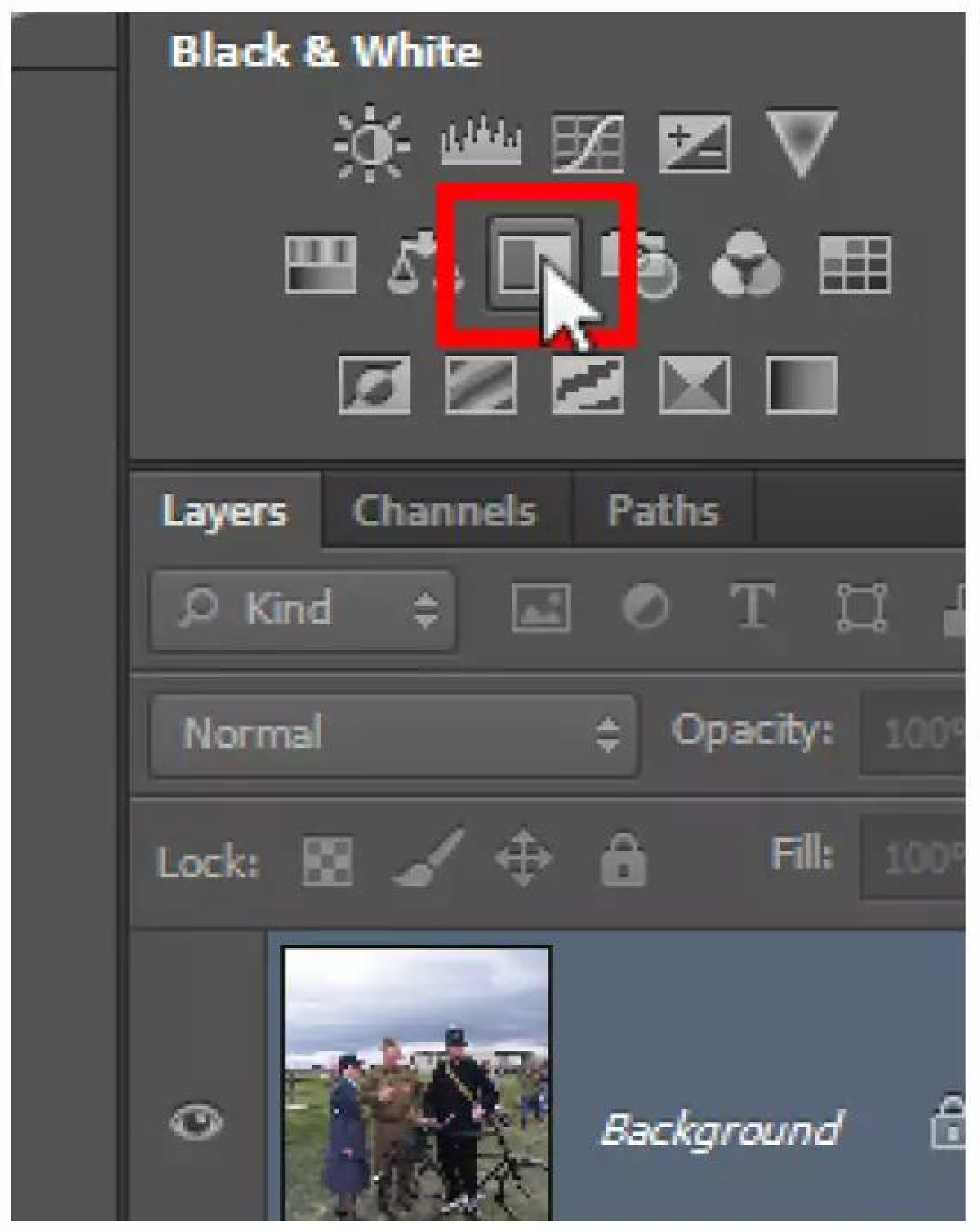
06 The result from this simple method works well, producing an appropriately tinted image; but Photoshop offers other more complex methods to simulate sepia toning that can give even better results. We'll take a look at a couple of them next.

Sepia toning

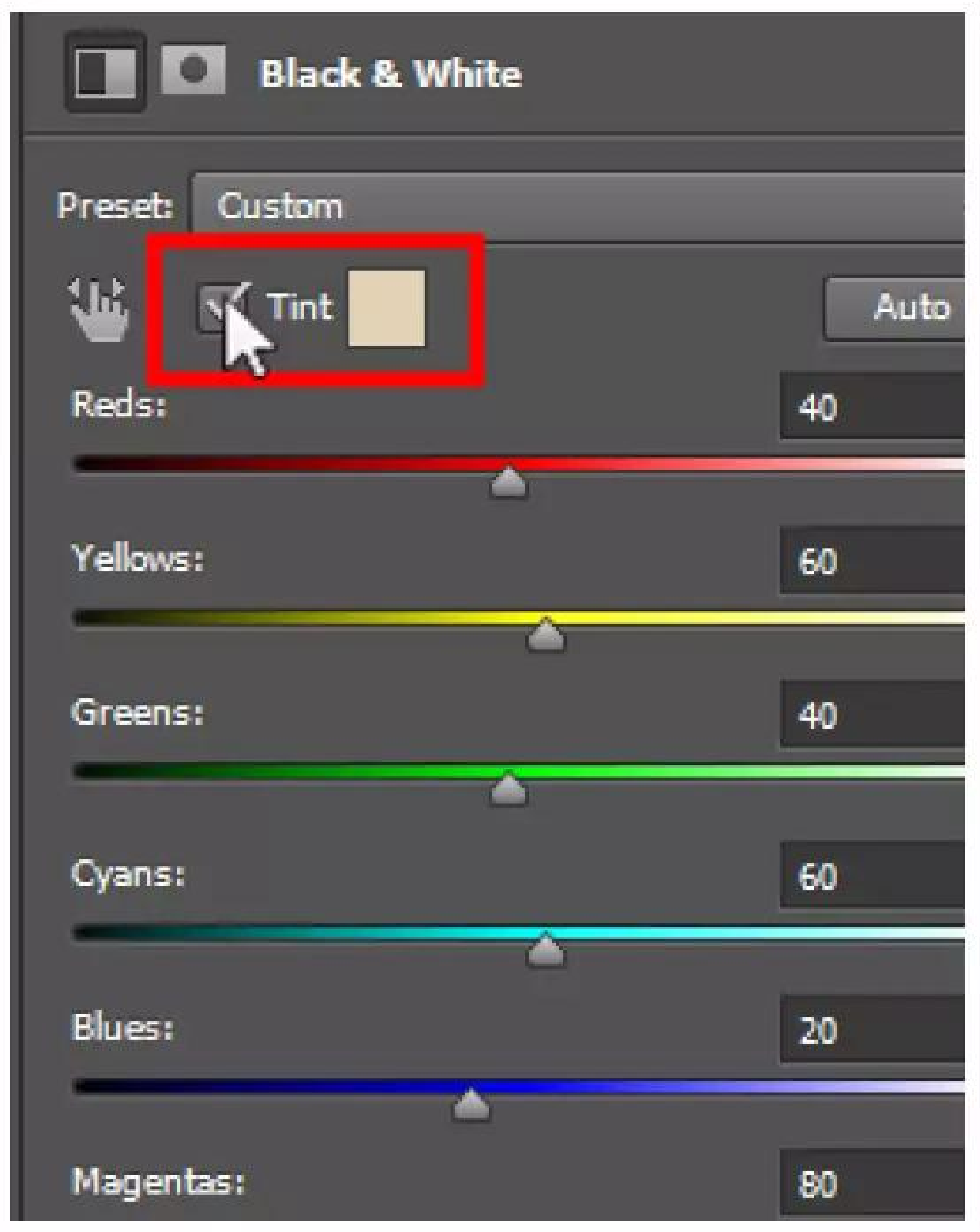
2

The black and white adjustment method

A more accurate method of sepia toning makes use of the black and white adjustment option.

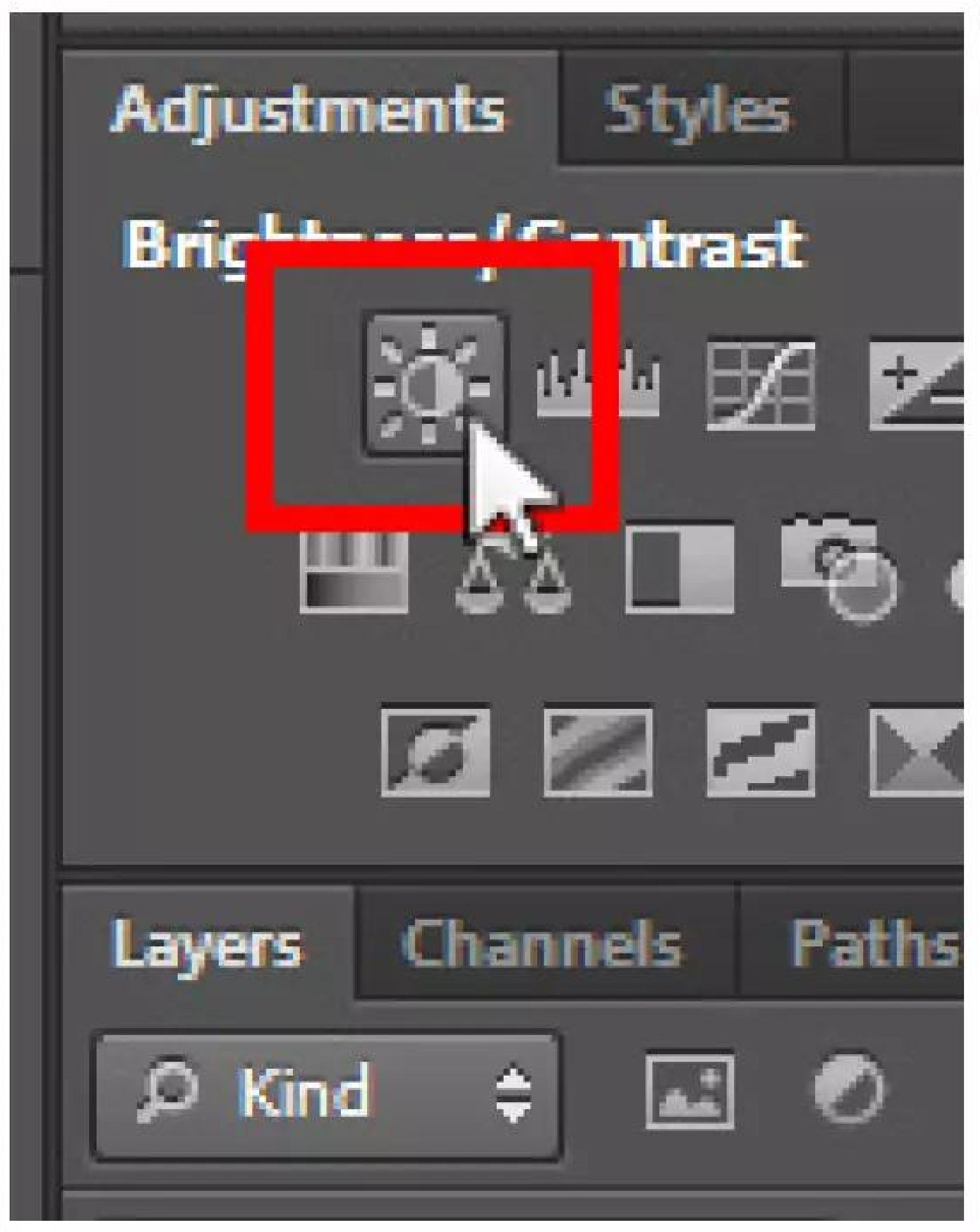

Black & White
Layers
Channels
Paths
Kind
Normal
Opacity:
Lock:
Fill:
Background

01 First, open your image, and then create a new Black & White adjustment layer. You'll find this in the centre of the middle row of adjustment layer buttons.

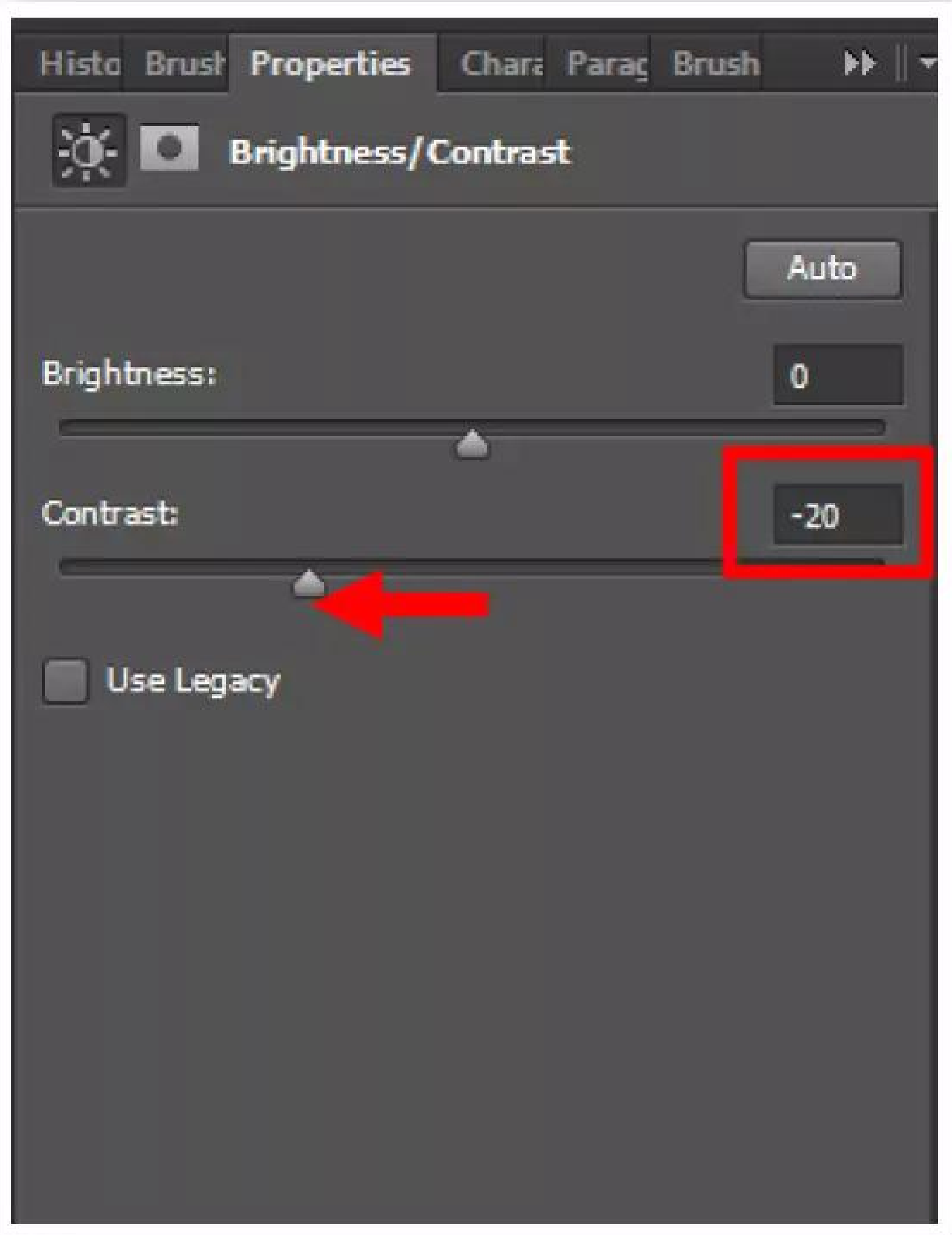

Black & White
Auto

Preset: Custom
☑ Tint
Reds: 40
Yellows: 60
Greens: 40
Cyans: 60
Blues: 20
Magentas: 80

02 When the slider control panel appears, simply click on the Tint button, located near the top of the panel. By a happy coincidence the default tint is a close match to sepia toning, so we don't need to make any further adjustments.

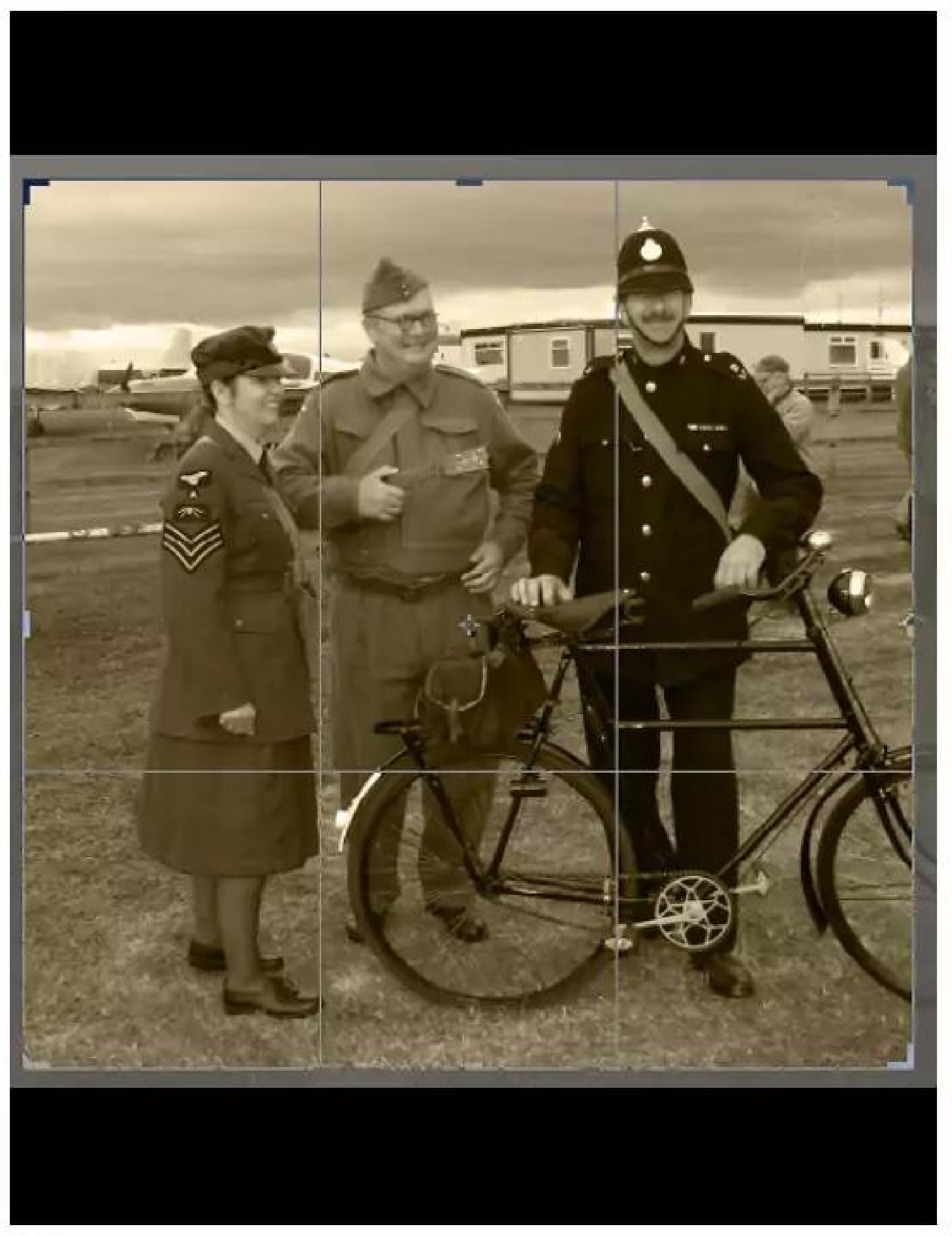

Adjustments
Styles
Brightness/Contrast
Layers
Channels
Paths
Kind

03 To add a little extra realism we can mimic the low contrast of early film, as well as the slight fading that inevitably happens over many years, by reducing the contrast. Click on the button to add a new Brightness/Contrast adjustment layer, located to the left of the top row of buttons.

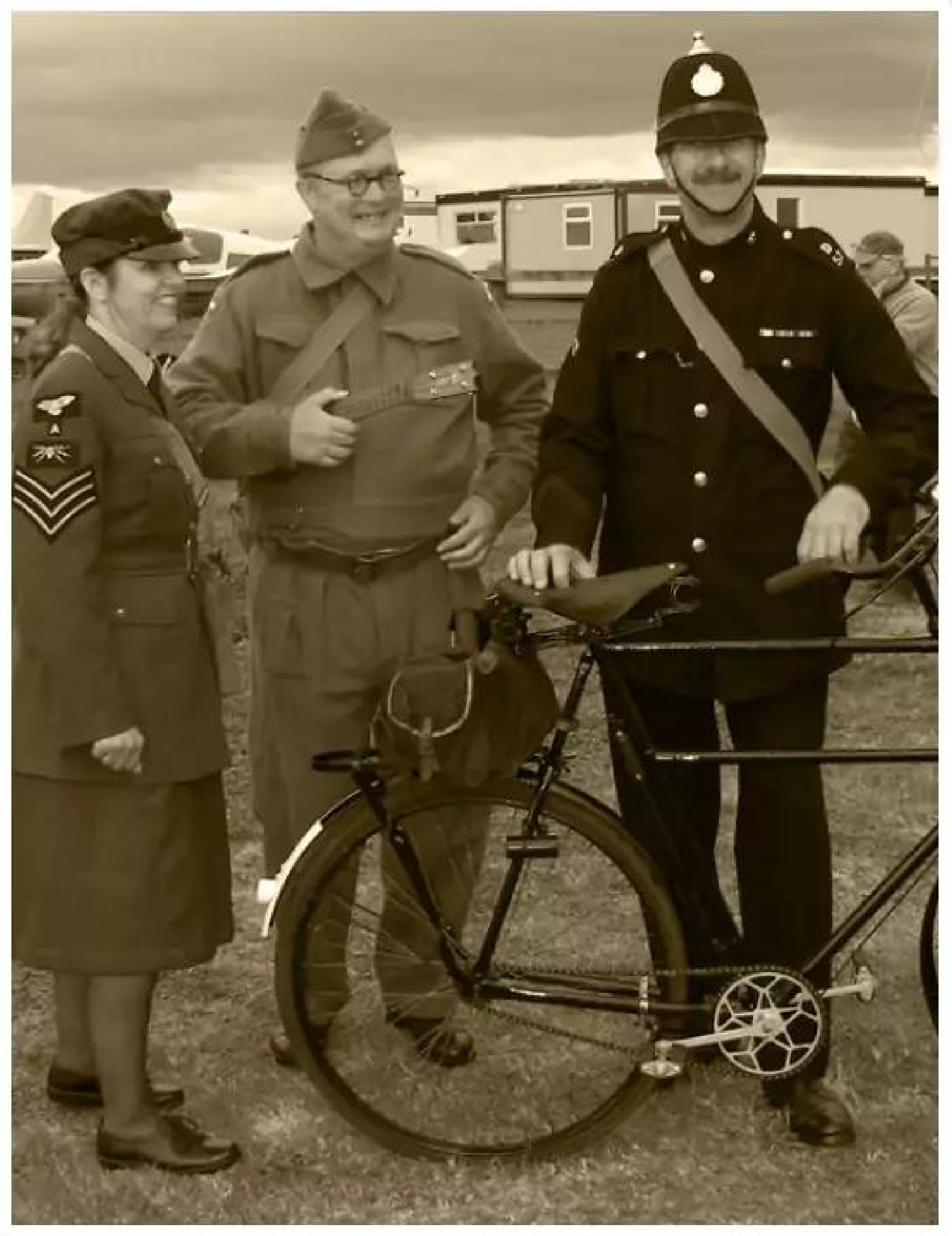

Histo
Brush
Properties
Chara
Parag
Brush
Brightness/Contrast
Auto

Brightness: 0
Contrast: -20
☐ Use Legacy

04 In the brightness/contrast control panel that appears, move the contrast slider toward the left until the value in the window to the right of it reads about -20. You don't need to overdo the effect to produce a noticeable reduction in contrast.



05 Once again we'll crop the image down to a square 1 x 1 format, mimicking the film frame of a 1940s roll film camera and removing the lady in the era-revealing hoodie.



06 Compare this version with the hue/saturation adjusted version on the previous page. We think you'll agree it looks even more authentic.

3

The greyscale tritone method

Our third method of simulating sepia toning uses the greyscale tritone mode, a little-used feature of Photoshop, but with excellent results.

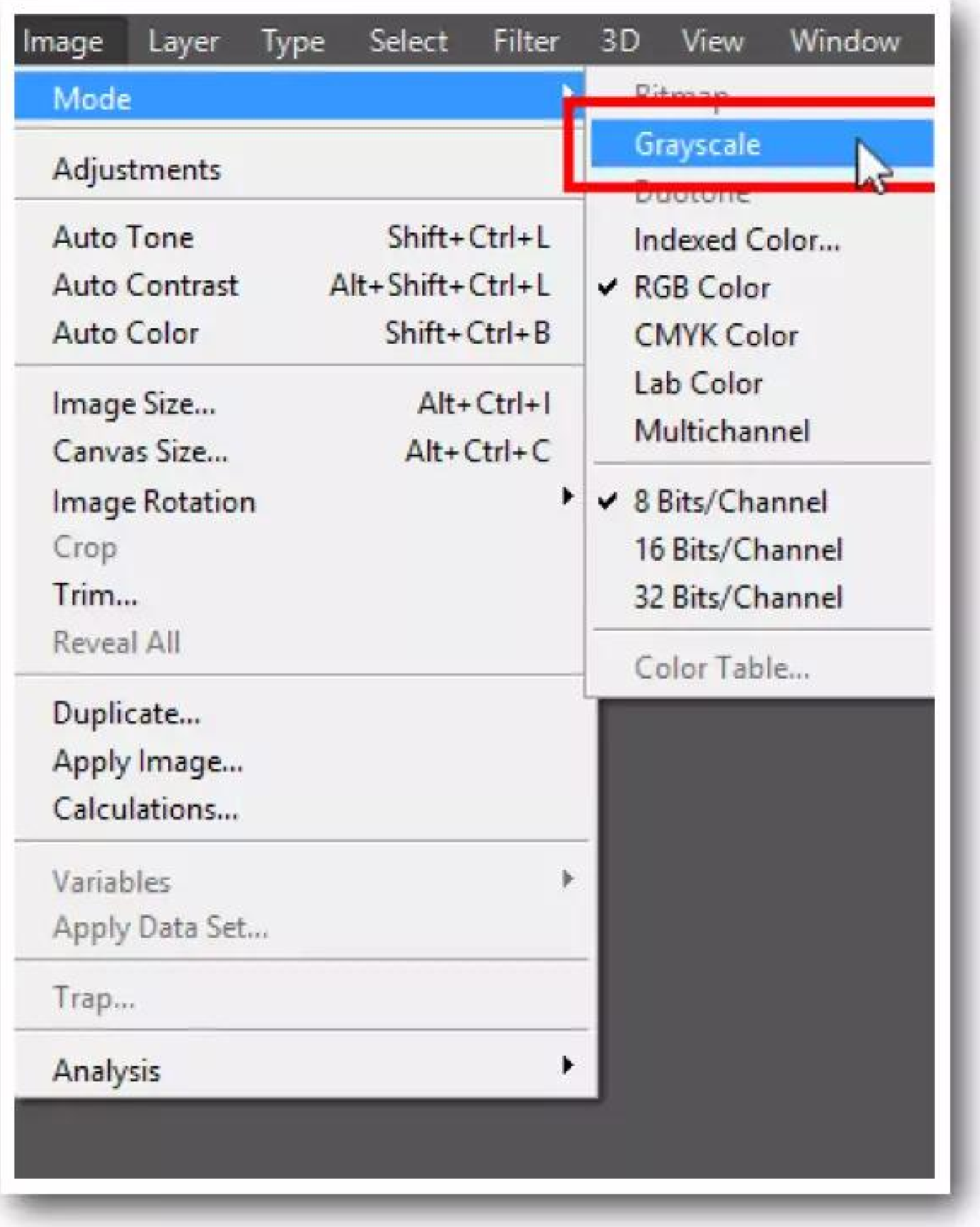
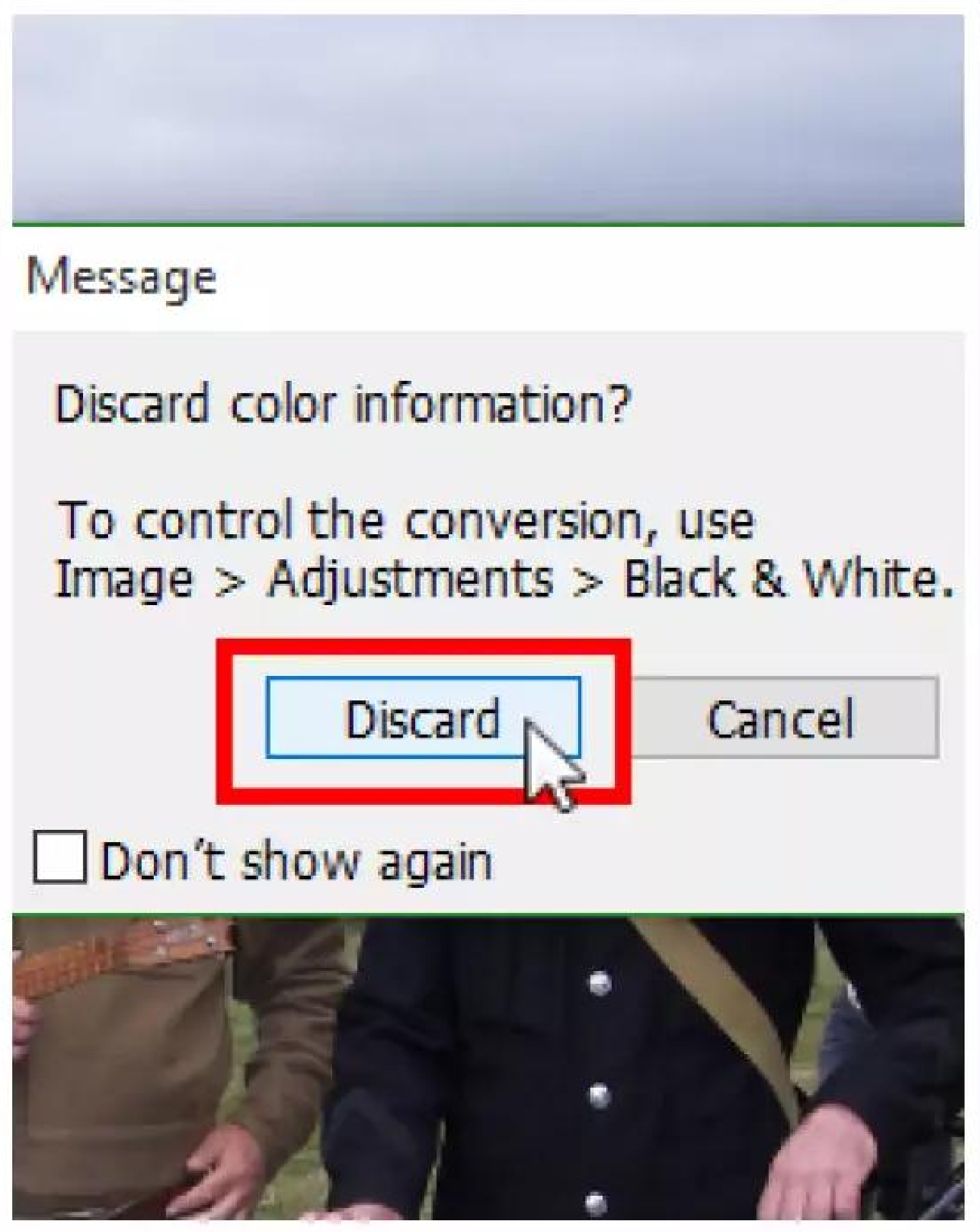


Image Layer Type Select Filter 3D View Window
Mode
Adjustments
Auto Tone Shift+Ctrl+L
Auto Contrast Alt+Shift+Ctrl+L
Auto Color Shift+Ctrl+B
Image Size... Alt+Ctrl+I
Canvas Size... Alt+Ctrl+C
Image Rotation
Crop
Trim...
Reveal All
Duplicate...
Apply Image...
Calculations...
Variables
Apply Data Set...
Trap...
Analysis
Bitmap
Grayscale
Duotone
Indexed Color...
RGB Color
CMYK Color
Lab Color
Multichannel
8 Bits/Channel
16 Bits/Channel
32 Bits/Channel
Color Table...

01 Open your image, and then open the Image menu and mouse over Mode. From the fly-out menu select Greyscale. This will remove all colour information from the image leaving just the brightness values, producing a monochrome image.



Message

Discard color information?

To control the conversion, use Image > Adjustments > Black & White.

Discard
Cancel
☐ Don't show again

02 You'll be asked to confirm that you want to discard the colour information; click the Discard button to accept. If you plan to use this feature frequently, you can click on the "Don't show again" box to skip this step in future and save a little time.

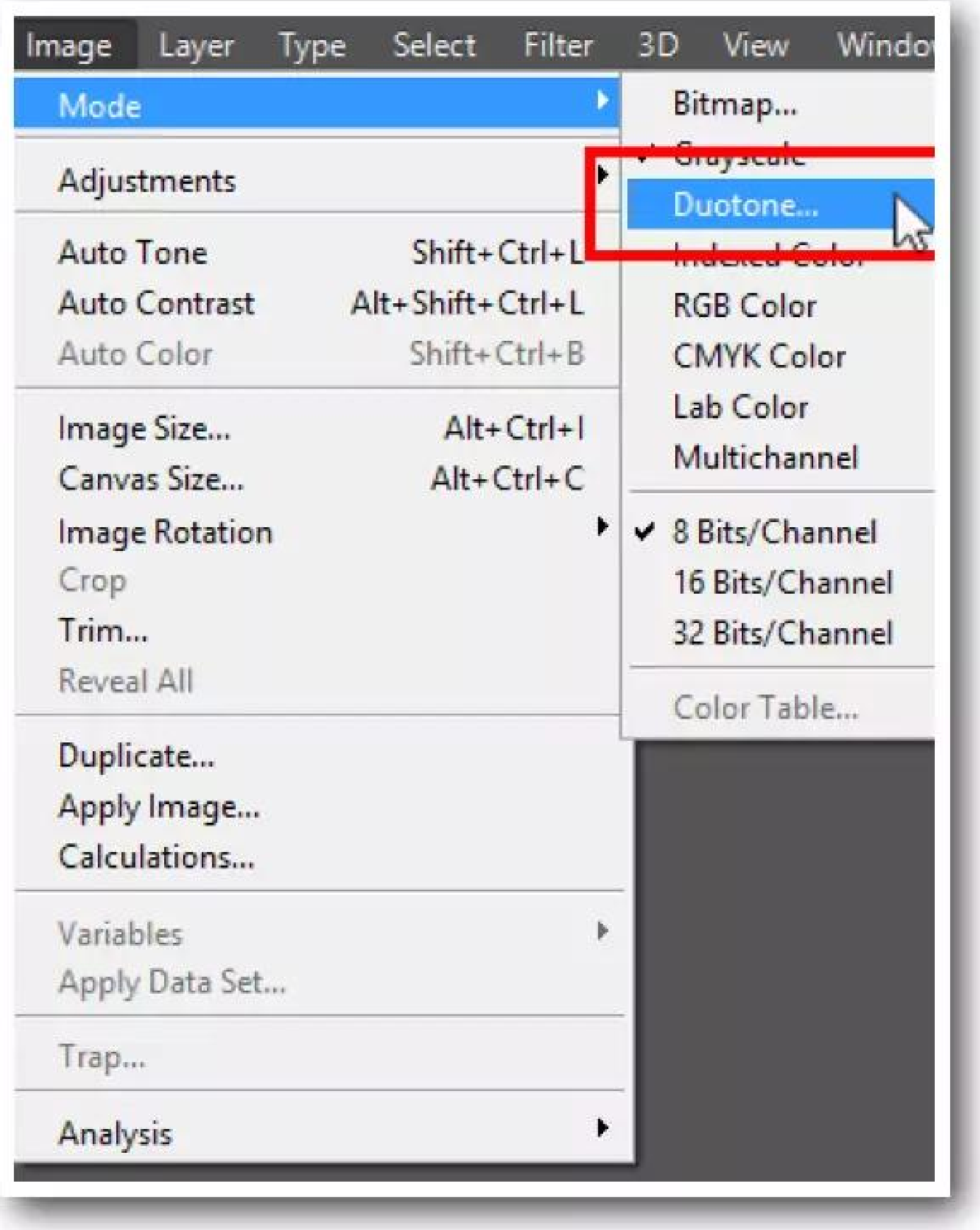
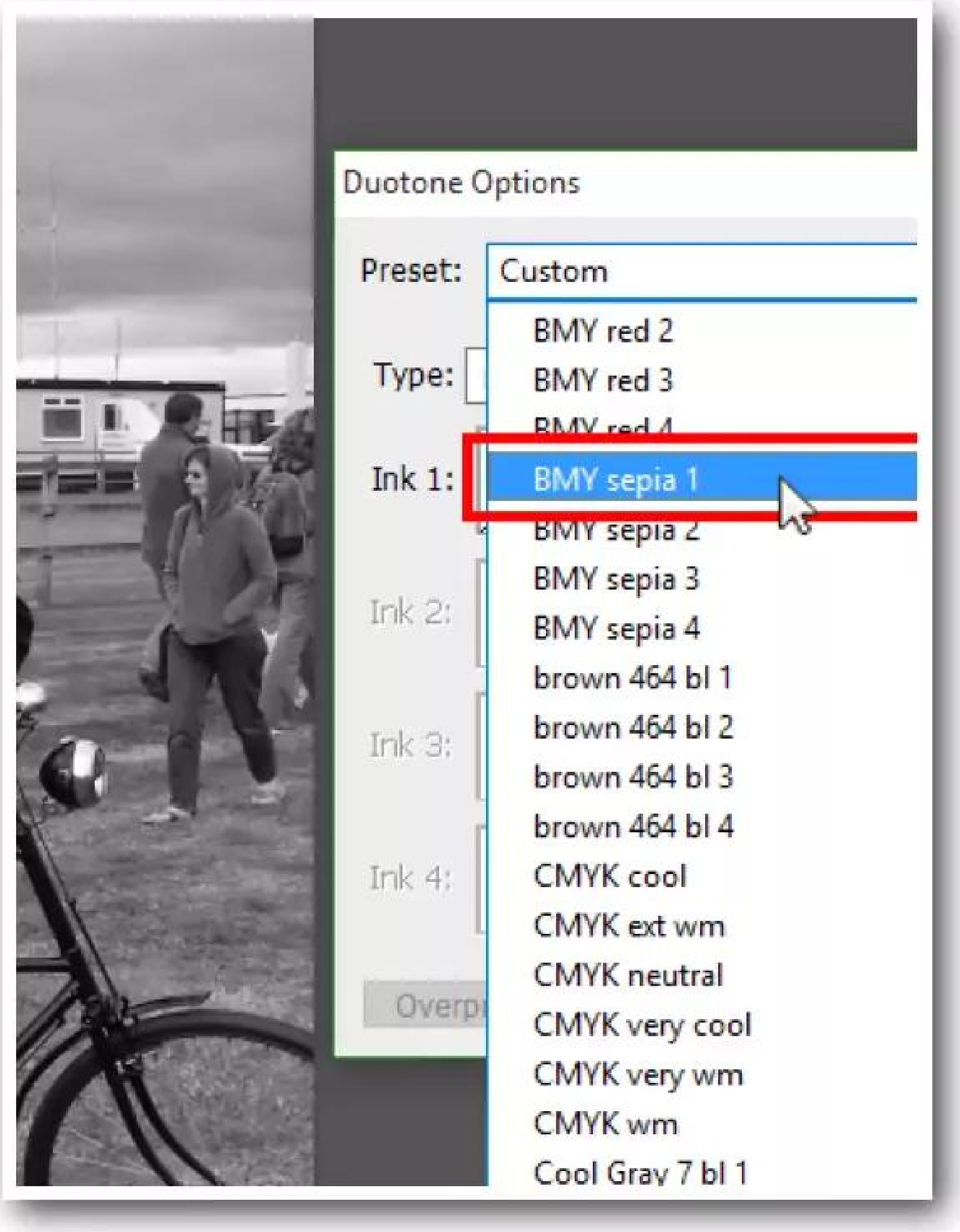


Image Layer Type Select Filter 3D View Windo
Mode
Adjustments
Auto Tone Shift+Ctrl+L
Auto Contrast Alt+Shift+Ctrl+L
Auto Color Shift+Ctrl+B
Image Size... Alt+Ctrl+I
Canvas Size... Alt+Ctrl+C
Image Rotation
Crop
Trim...
Reveal All
Duplicate...
Apply Image...
Calculations...
Variables
Apply Data Set...
Trap...
Analysis
Bitmap...
Grayscale
Duotone...
Indexed Color...
RGB Color
CMYK Color
Lab Color
Multichannel
8 Bits/Channel
16 Bits/Channel
32 Bits/Channel
Color Table...

03 Go back to the Image > Mode menu and select Duotone. The duotone process replaces the brightness information in the image with specific tones, which is in fact exactly what the photographic chemical process of sepia toning does, making this a very accurate simulation.



Duotone Options

Preset: Custom

Ink 1: BMY sepia 1

Type:
Ink 2:
Ink 3:
Ink 4:
Overpr
BMY red 2
BMY red 3
BMY red 4
BMY sepia 1
BMY sepia 2
BMY sepia 3
BMY sepia 4
brown 464 bl 1
brown 464 bl 2
brown 464 bl 3
brown 464 bl 4
CMYK cool
CMYK ext wm
CMYK neutral
CMYK very cool
CMYK very wm
CMYK wm
Cool Gray 7 bl 1

04 In the Duotone options panel that opens, click in the Preset drop-down menu window. Scroll down until you find "BMY sepia 1" and click on it. This converts the image to a tritone image, in which the brightness is replaced by a particular ratio of black, yellow and magenta.

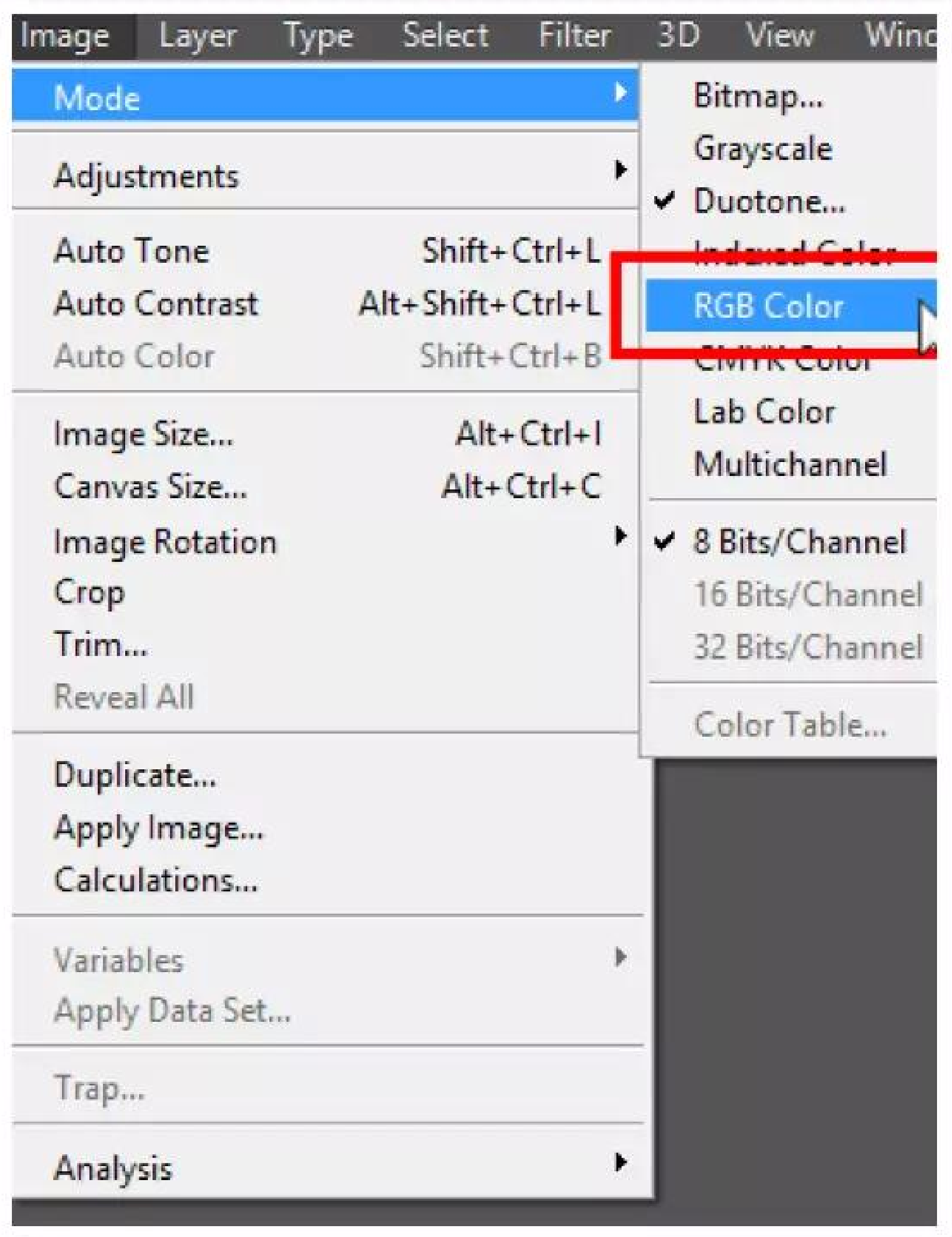
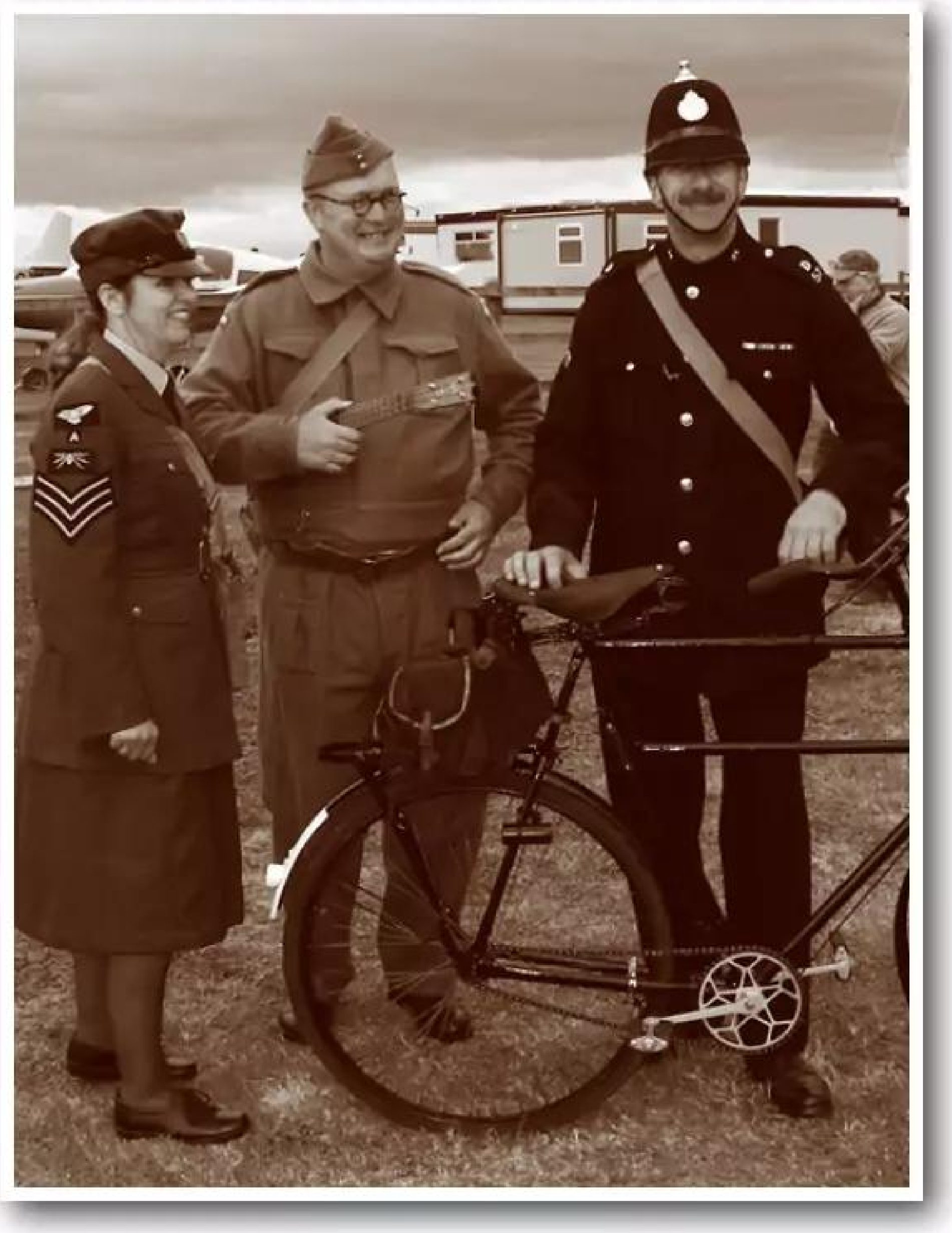
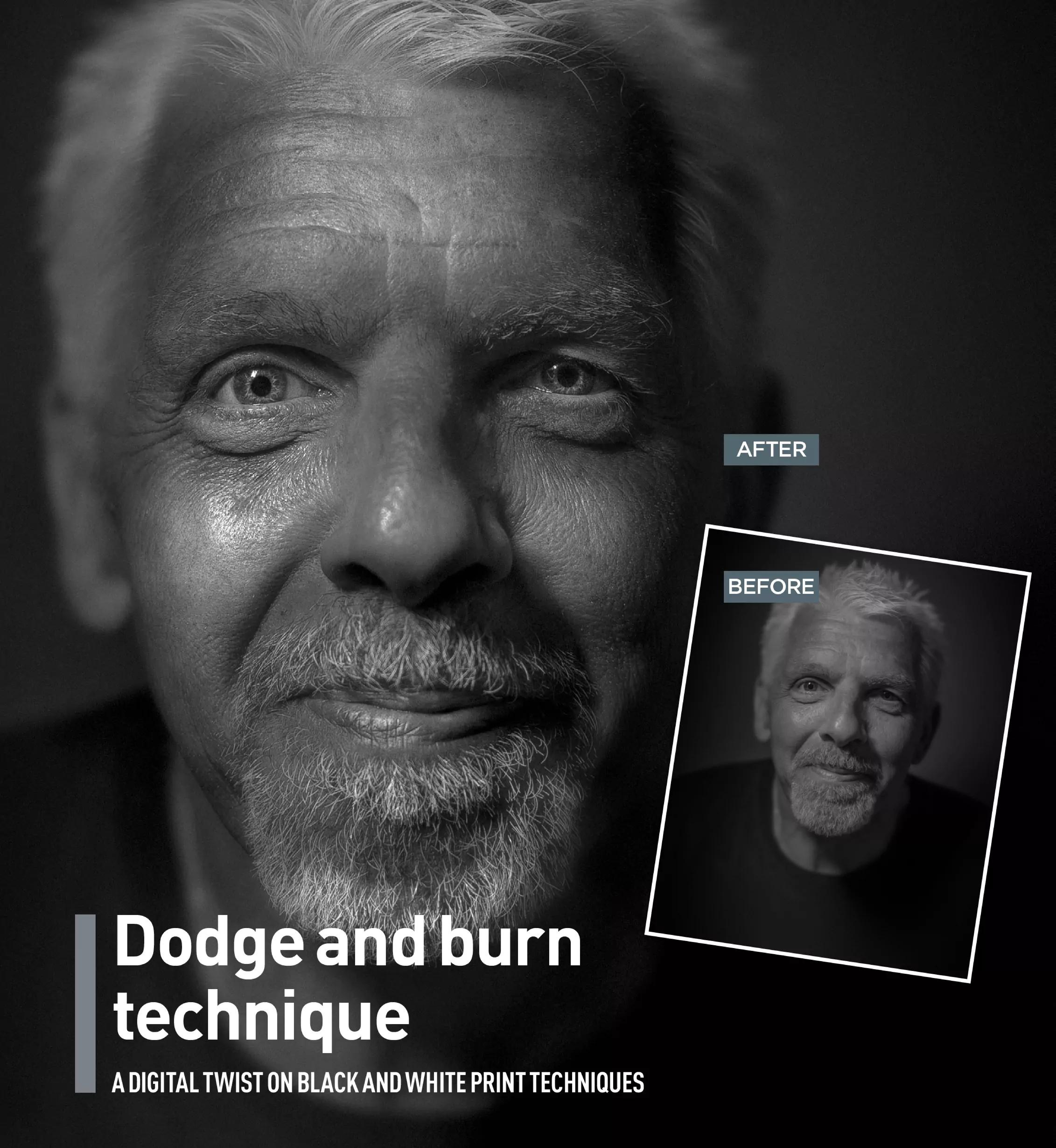


Image Layer Type Select Filter 3D View Wind
Mode
Adjustments
Auto Tone Shift+Ctrl+L
Auto Contrast Alt+Shift+Ctrl+L
Auto Color Shift+Ctrl+B
Image Size... Alt+Ctrl+I
Canvas Size... Alt+Ctrl+C
Image Rotation
Crop
Trim...
Reveal All
Duplicate...
Apply Image...
Calculations...
Variables
Apply Data Set...
Trap...
Analysis
Bitmap...
Grayscale
Duotone...
Indexed Color
RGB Color
CMYK Color
Lab Color
Multichannel
8 Bits/Channel
16 Bits/Channel
32 Bits/Channel
Color Table...

05 In order to save the image as a JPEG or any other useful format, first you'll have to convert it back to RGB colours. Open the Image > Mode menu once again and select RGB Colour from the list of options. You can then save it in any format you like.



06 The result is a perfect simulation of an old sepia-toned print. Compare this version with the previous two, and with the genuine sepia-toned image on the first page, and we're sure you'll agree that the greyscale tritone method works the best.

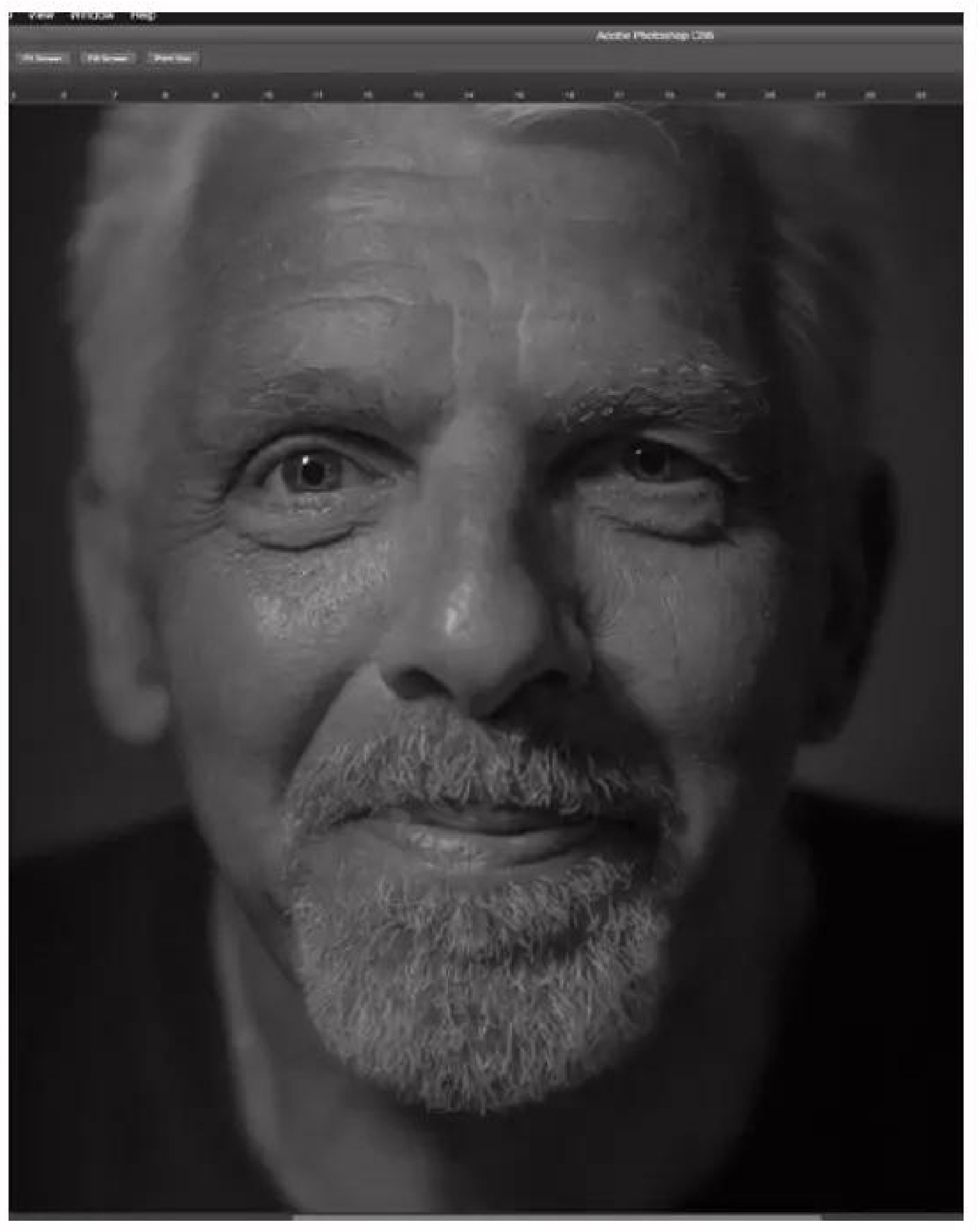


Dodge and burn technique

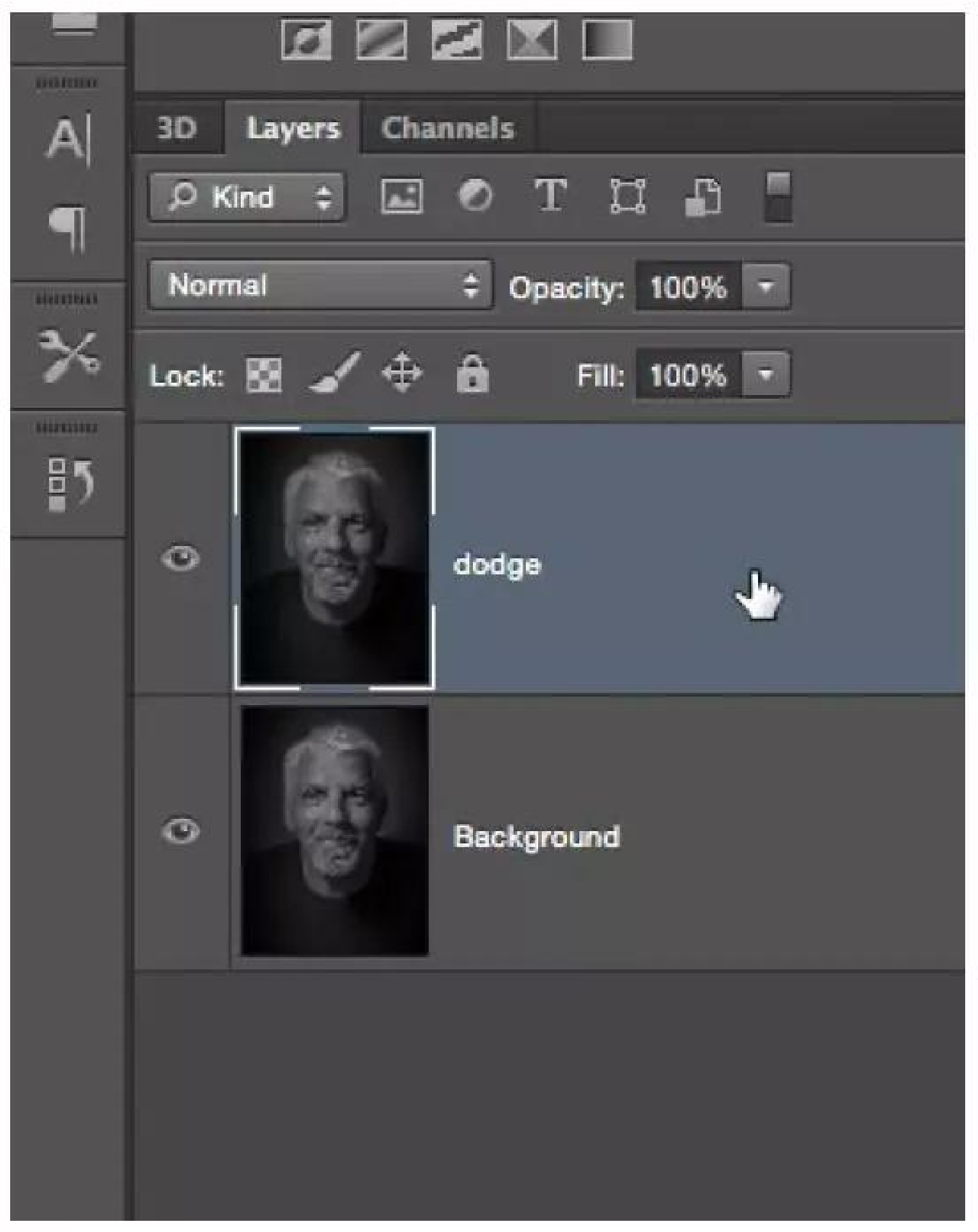
A DIGITAL TWIST ON BLACK AND WHITE PRINT TECHNIQUES

Dodging and burning have their roots in the days of analogue photography, long before digital cameras and computers were in use. Dodging refers to the technique of lightening an image at the darkroom stage by reducing the exposure of a photographic print in specific areas.

Burning is the opposite, where parts of the image are exposed for longer onto the print, making those areas darker. With the advent of digital technology the process is done on a computer, but the basic principle and its terminology remain the same. In our example we take a basic black and white image that is lacking in contrast and, using the dodge and burn techniques, we can selectively add brightness and contrast to produce a much stronger image. ■



01 Open the image you want to work on. As mentioned, we have an example where the contrast has been reduced in order to demonstrate the effectiveness of the dodge and burn technique.

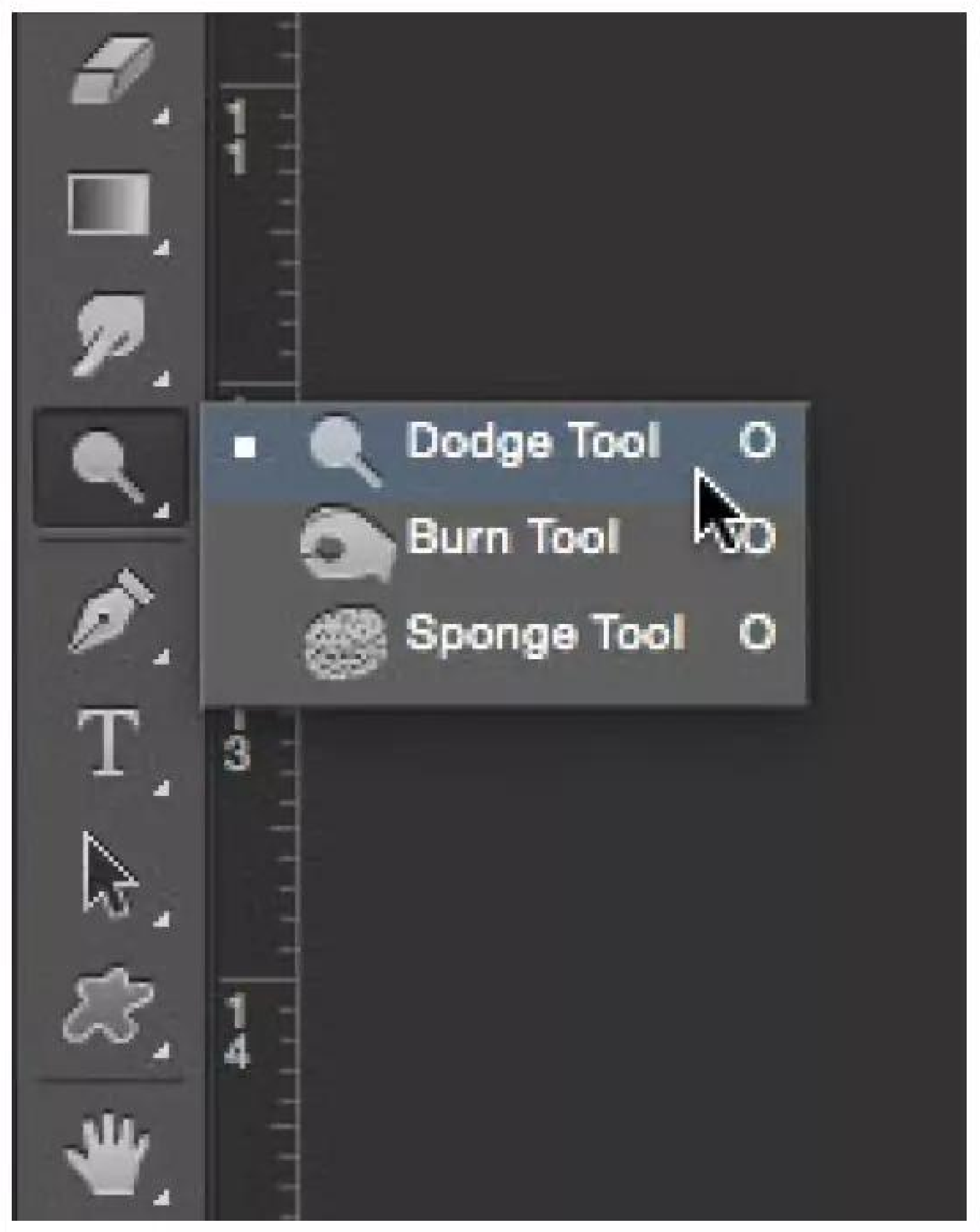

3D
Layers
Channels
Kind
Lock:
dodge
Background

Normal

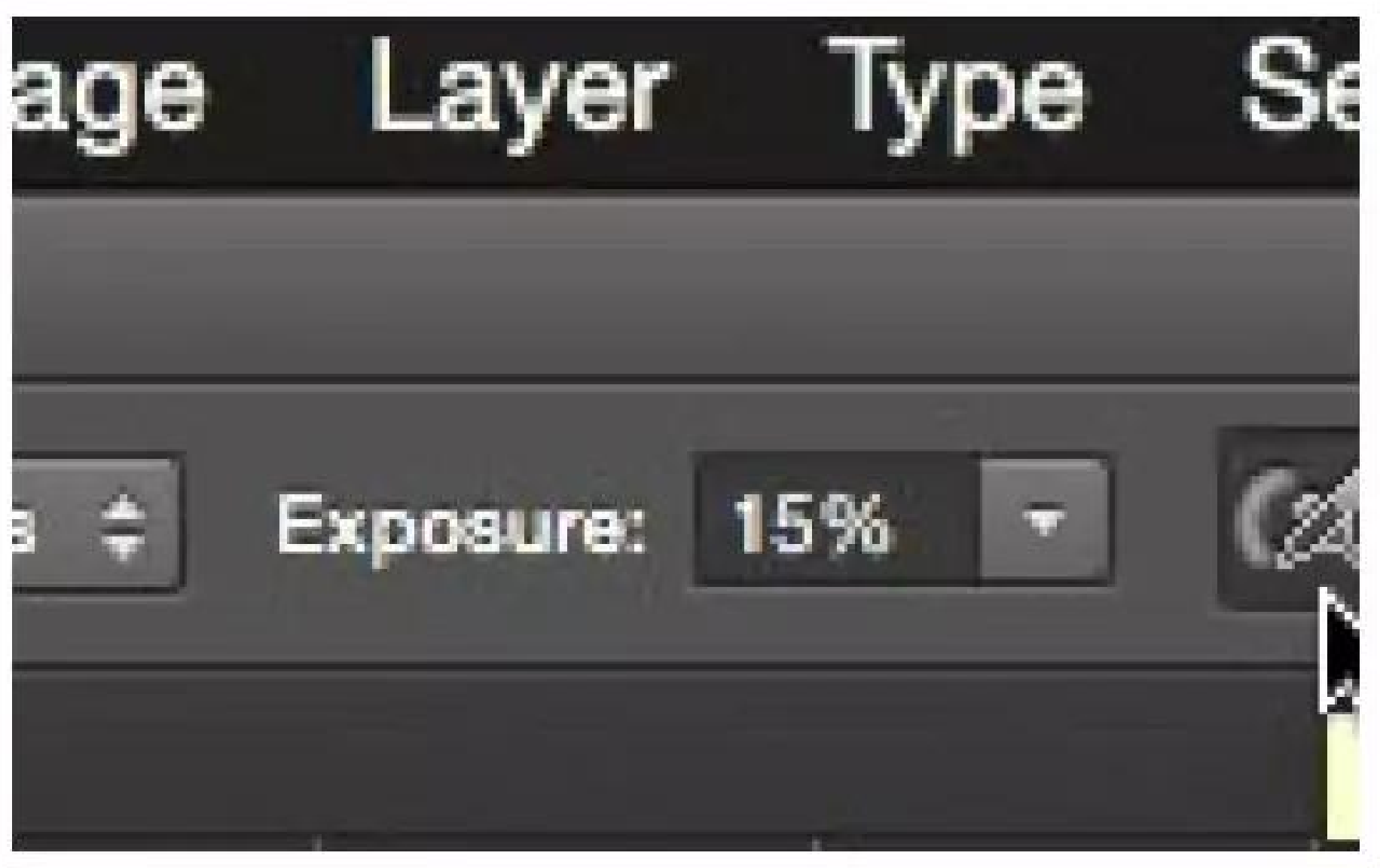
Opacity: 100%

Fill: 100%

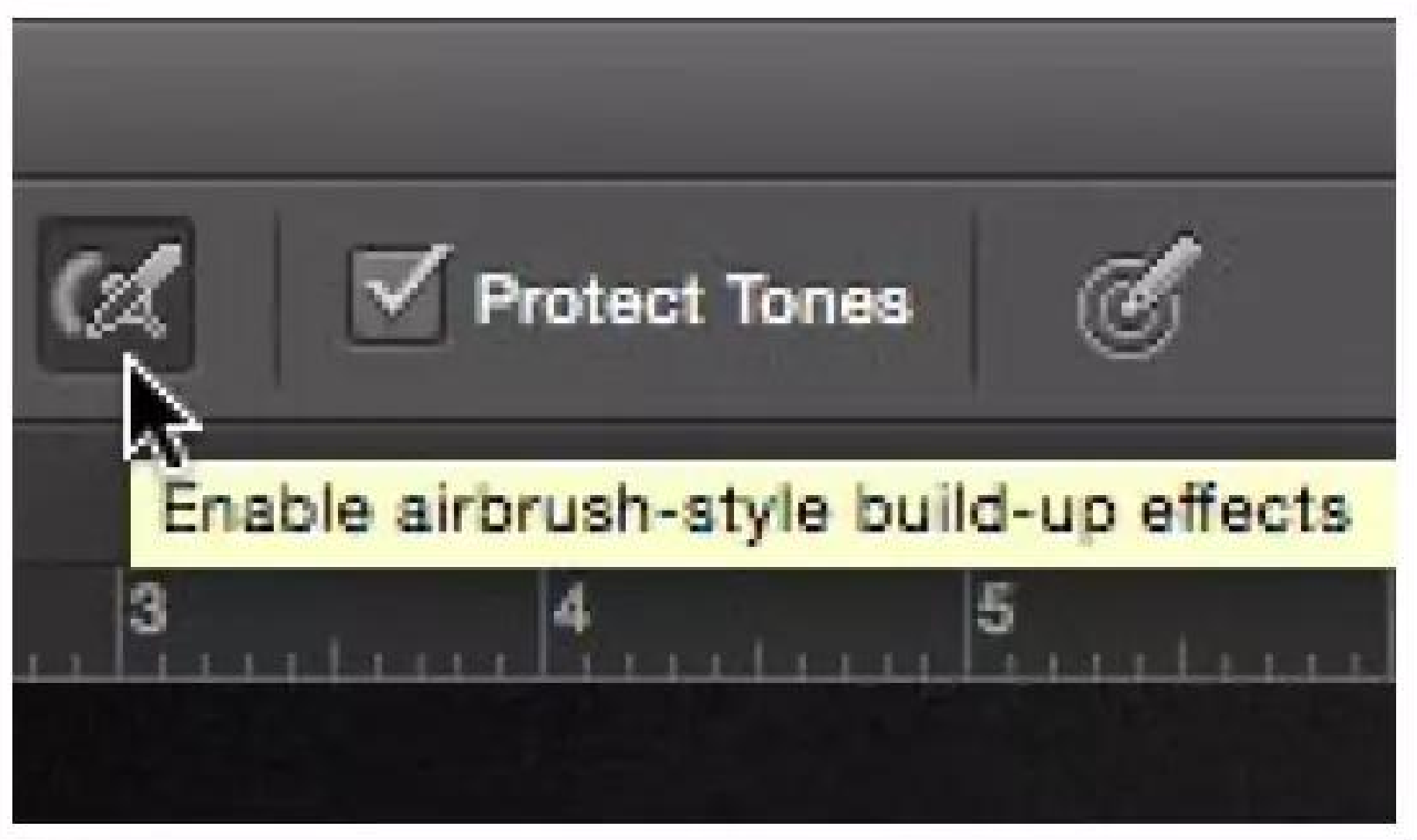
02 This particular process is a destructive technique so, to begin, press Cmd + J to create a duplicate layer and name this new layer ‘dodge’. This is the layer we will begin our ‘dodging’ process on.


Dodge Tool O
Burn Tool O
Sponge Tool O

03 In your toolbar, select the Dodge tool from the Dodge and Burn flyout panel. From the context menu above, click on the Range button and select Highlights from the drop-down menu. This means we only affect the brightest tones in the image.

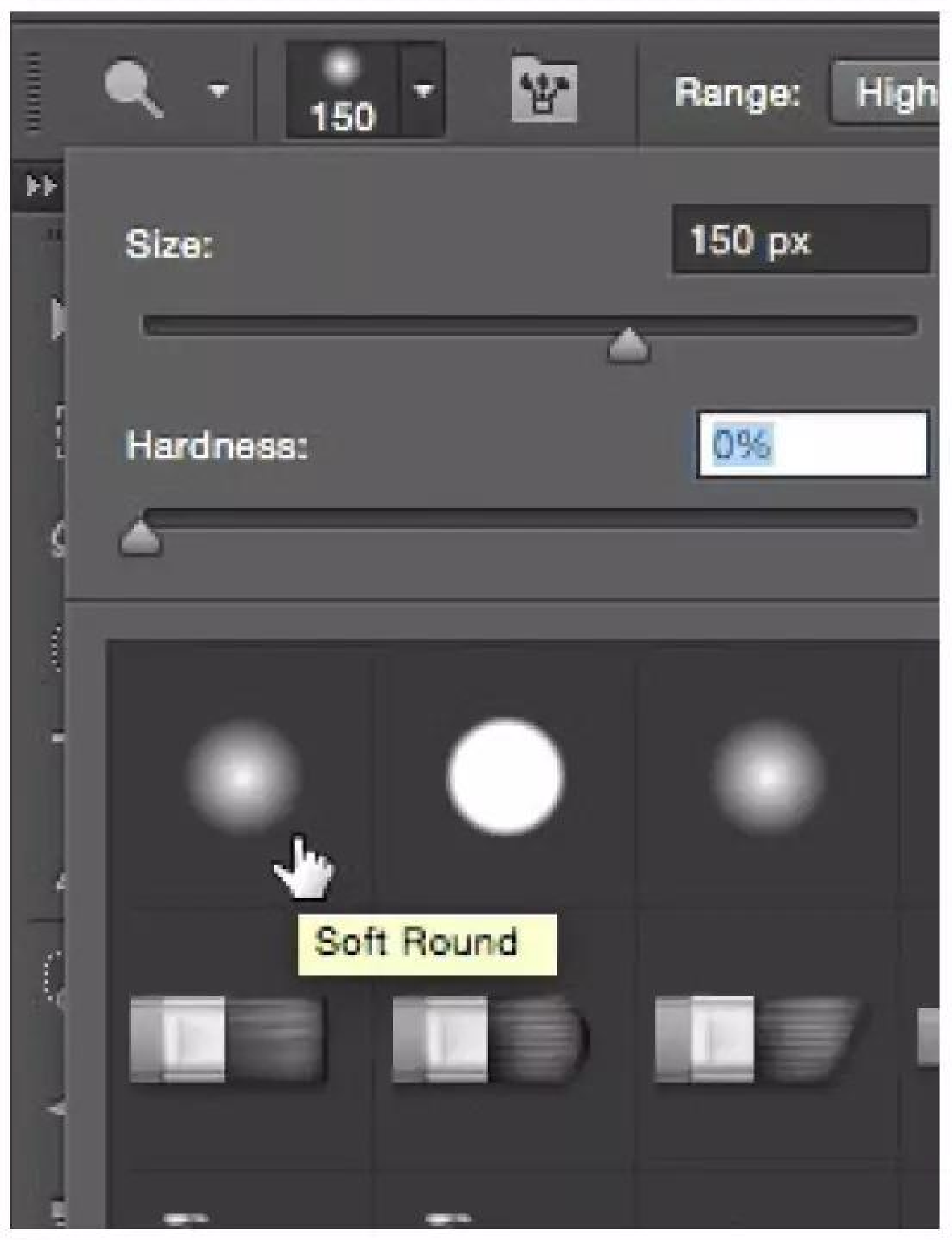

age
Layer
Type
Se

Exposure: 15%


Enable airbrush-style build-up effects
3
4
5

☑ Protect Tones

04 Make your Exposure value about 15% and make sure the Enable air-brush button is selected and the Protect Tones button is checked. This means that the dodge effect can be added gradually and tones and detail are not erased with one click.

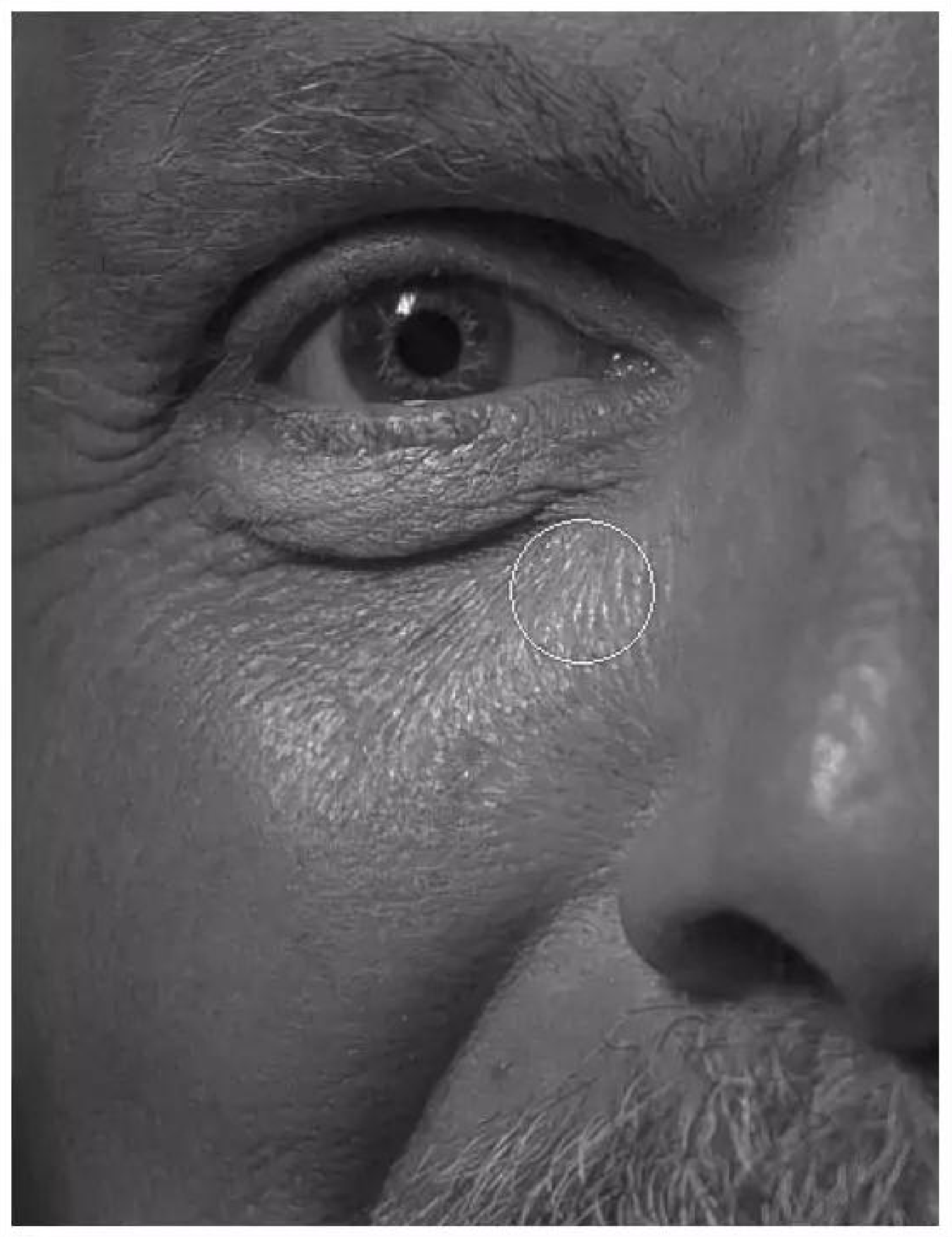

150
Soft Round

Range: High

Size: 150 px

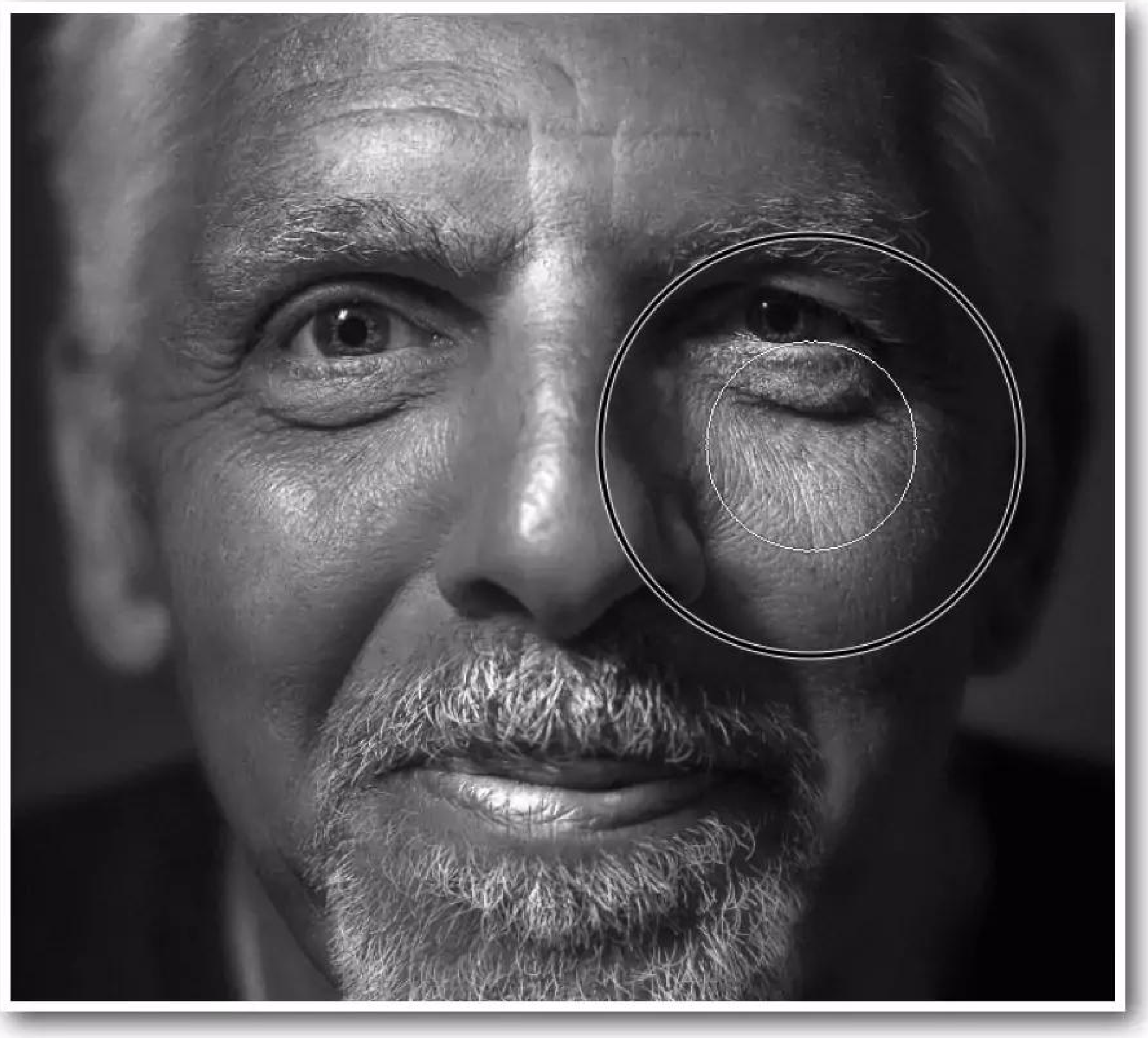
Hardness: 0%

05 Next, select a soft round brush with which to apply the effect. The Size value will depend on the resolution of the image you are working with. Keep the Hardness value at 0%.

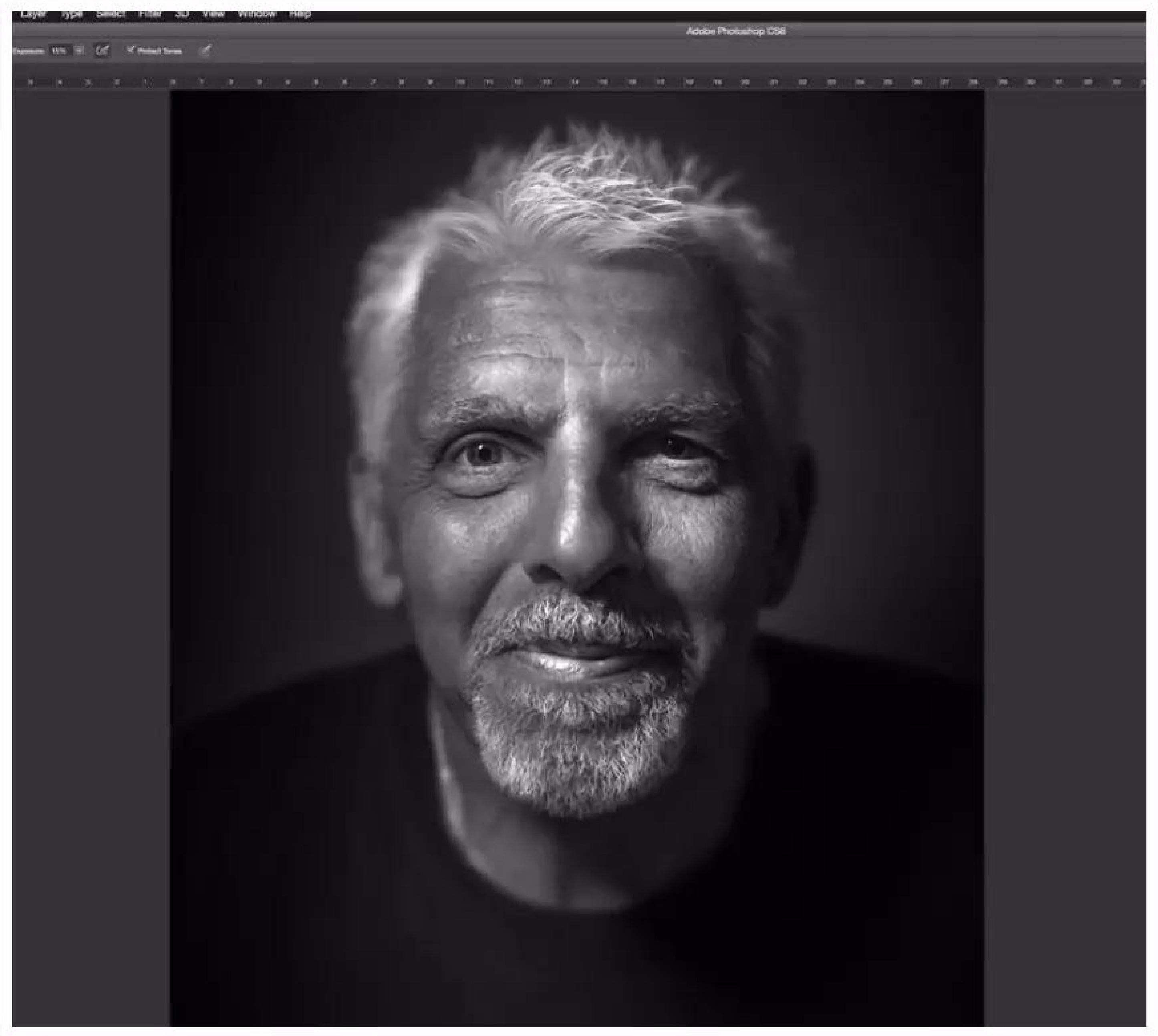


06 With gentle movements of the mouse, click and drag over the lighter areas and highlights in the image. You will see with each pass of the brush, the tones will get lighter and brighter. Keep working over the cheeks, nose, eyes, hair and beard.

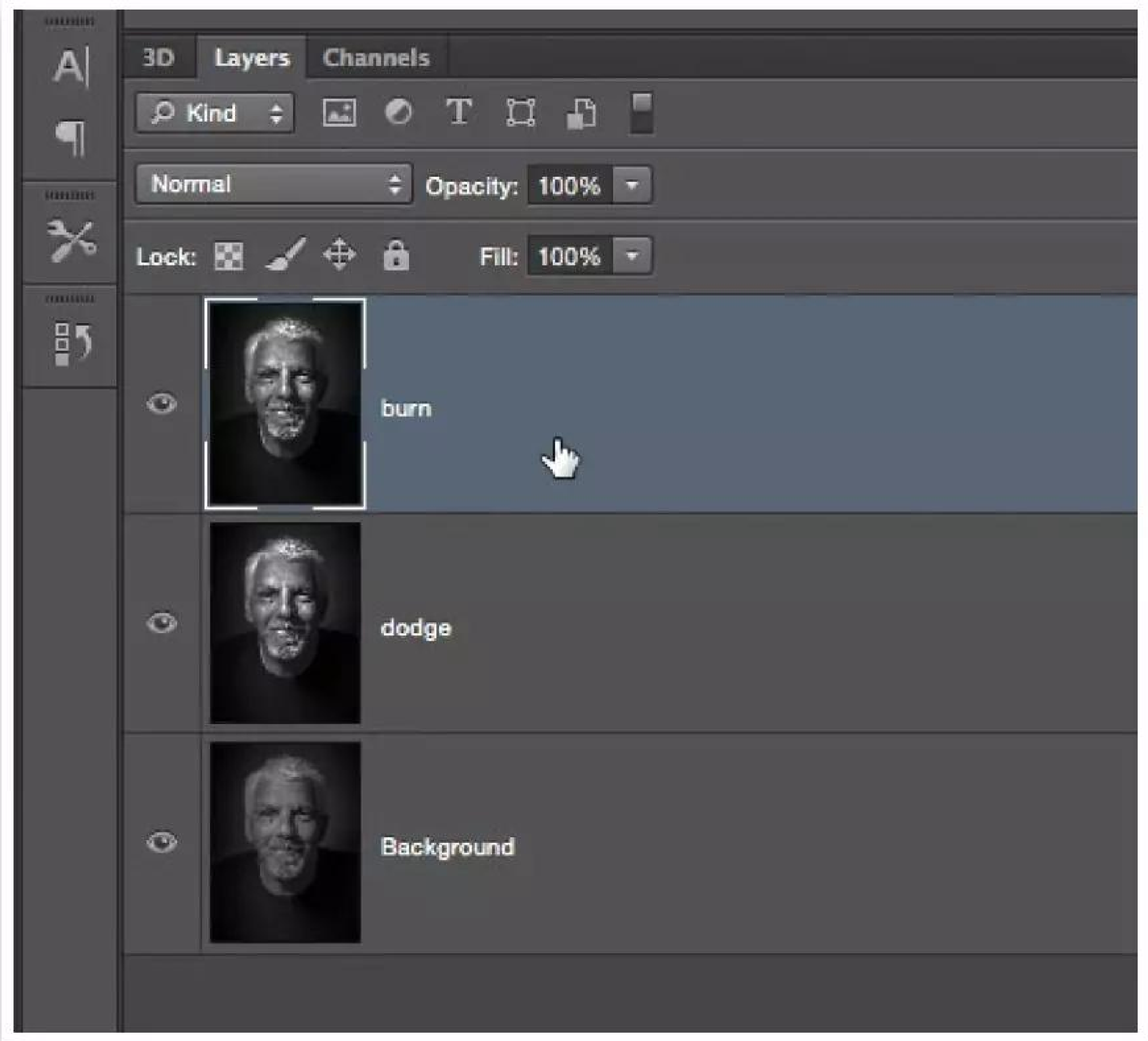
Dodge and burn technique



07 How much you want to lighten the highlight areas of the image is down to personal taste. We have done some additional brightening, just to show the difference in contrast from the image we started with.

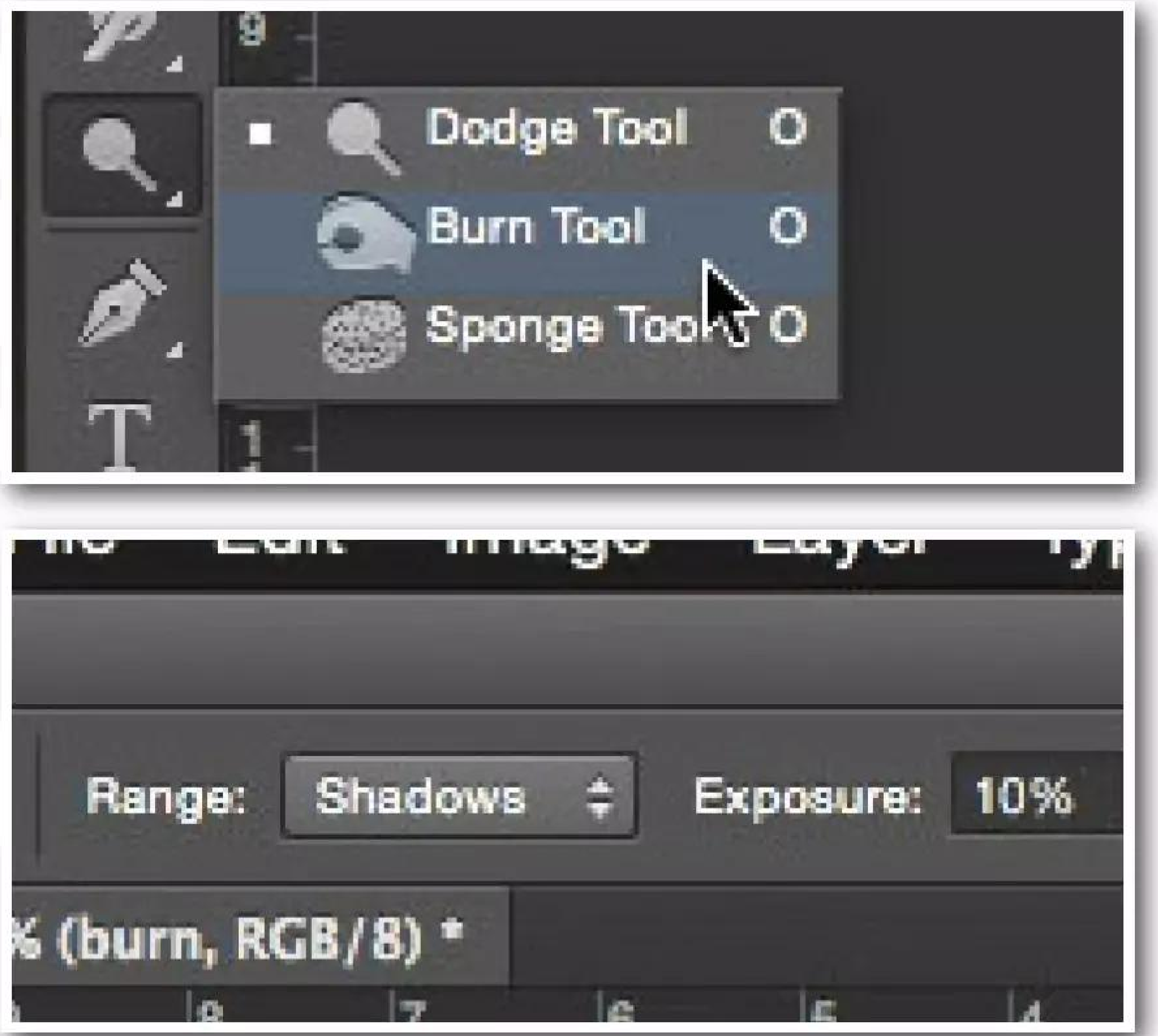


08 At this point you could save your image and call it done, but we have only covered one side of the dodge and burn technique. Now let's add some burn to the image to increase its drama.



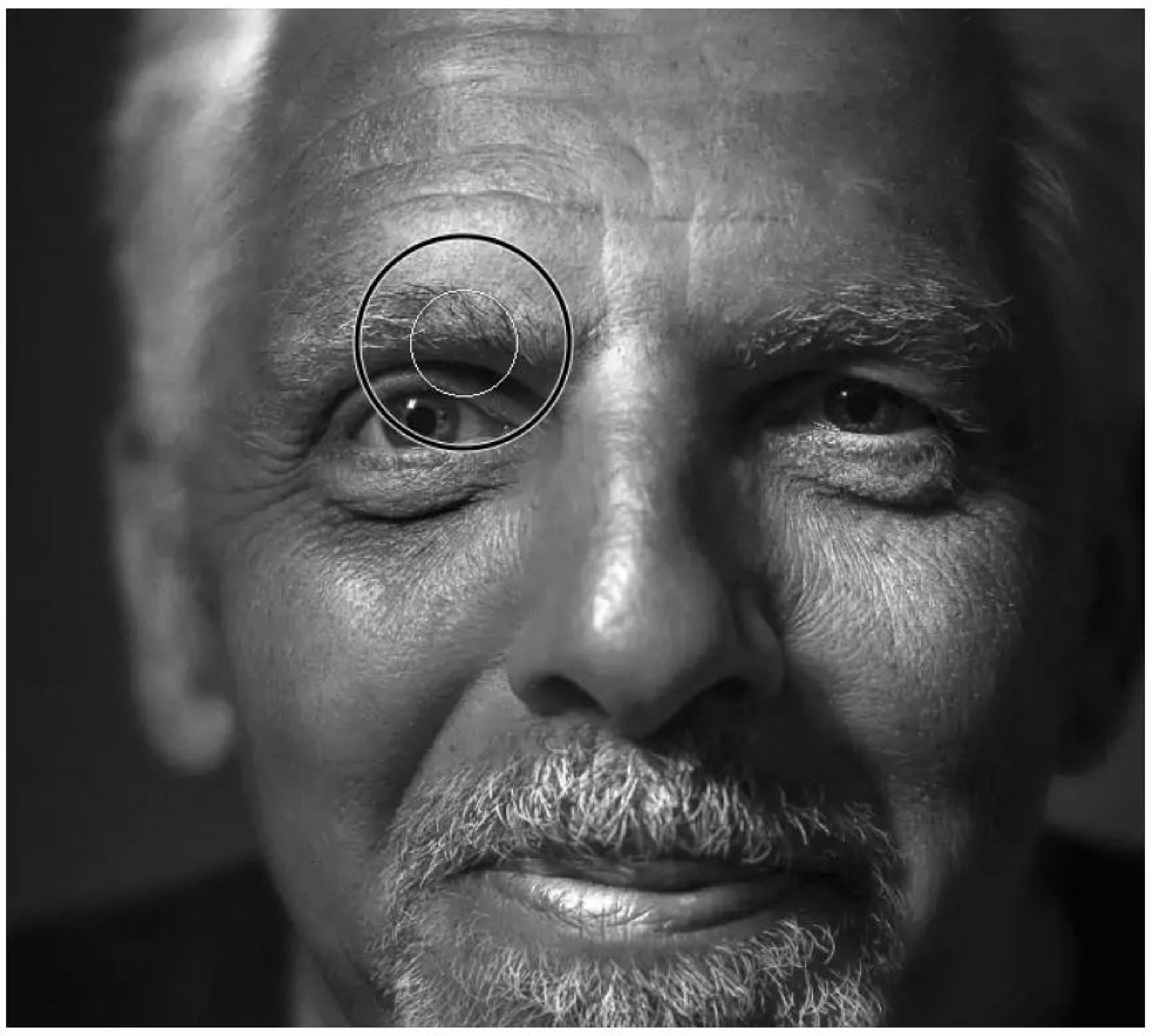
Normal
Opacity: 100%
Fill: 100%

09 Click on your 'dodge' layer to make sure it is active. Press Cmd + J to duplicate this layer. Click the new layer and name it 'burn'. You could keep working on the previous layer but we just want to be able to compare the effects.

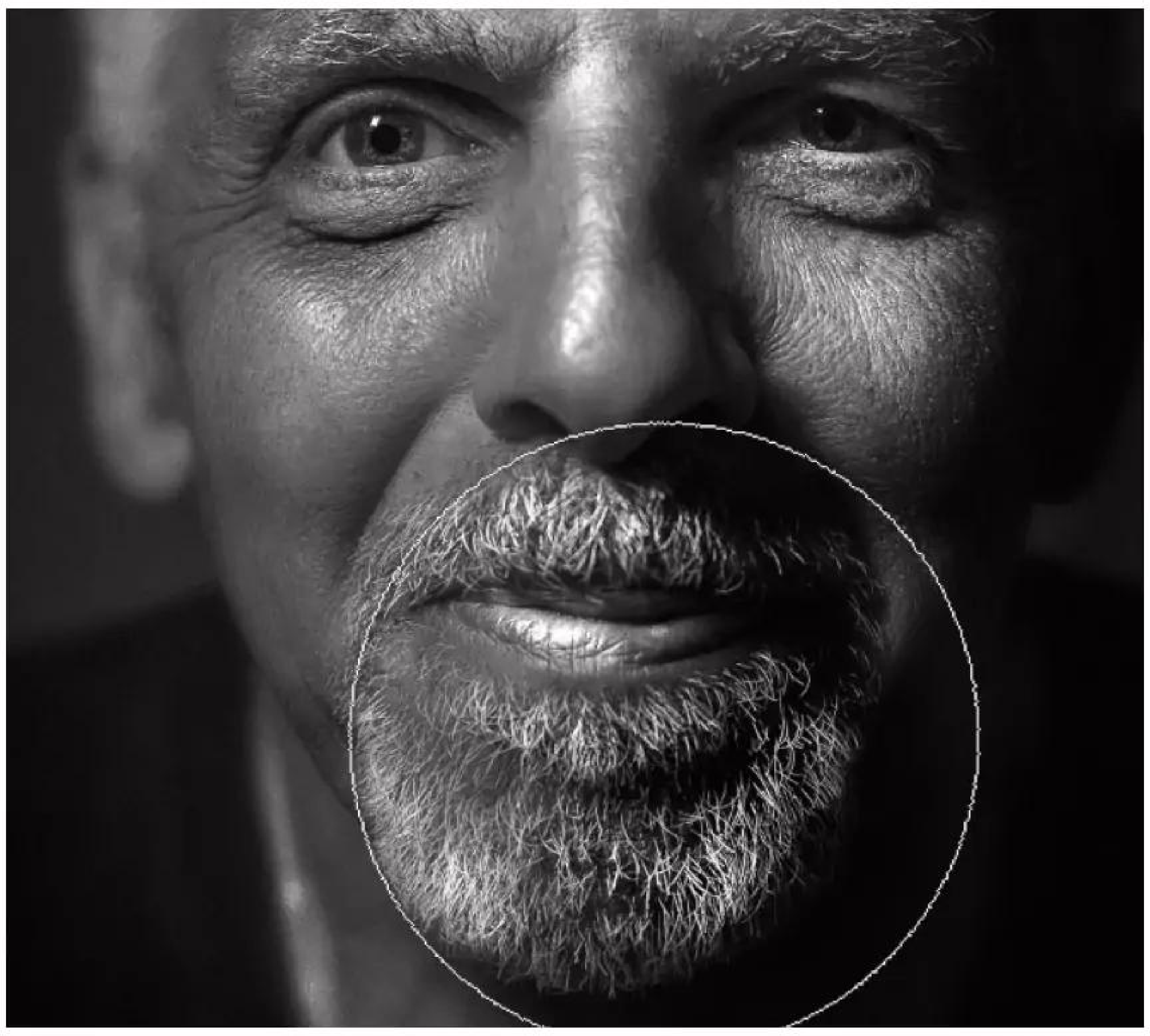


Range: Shadows
Exposure: 10%
% (burn, RGB/8) *

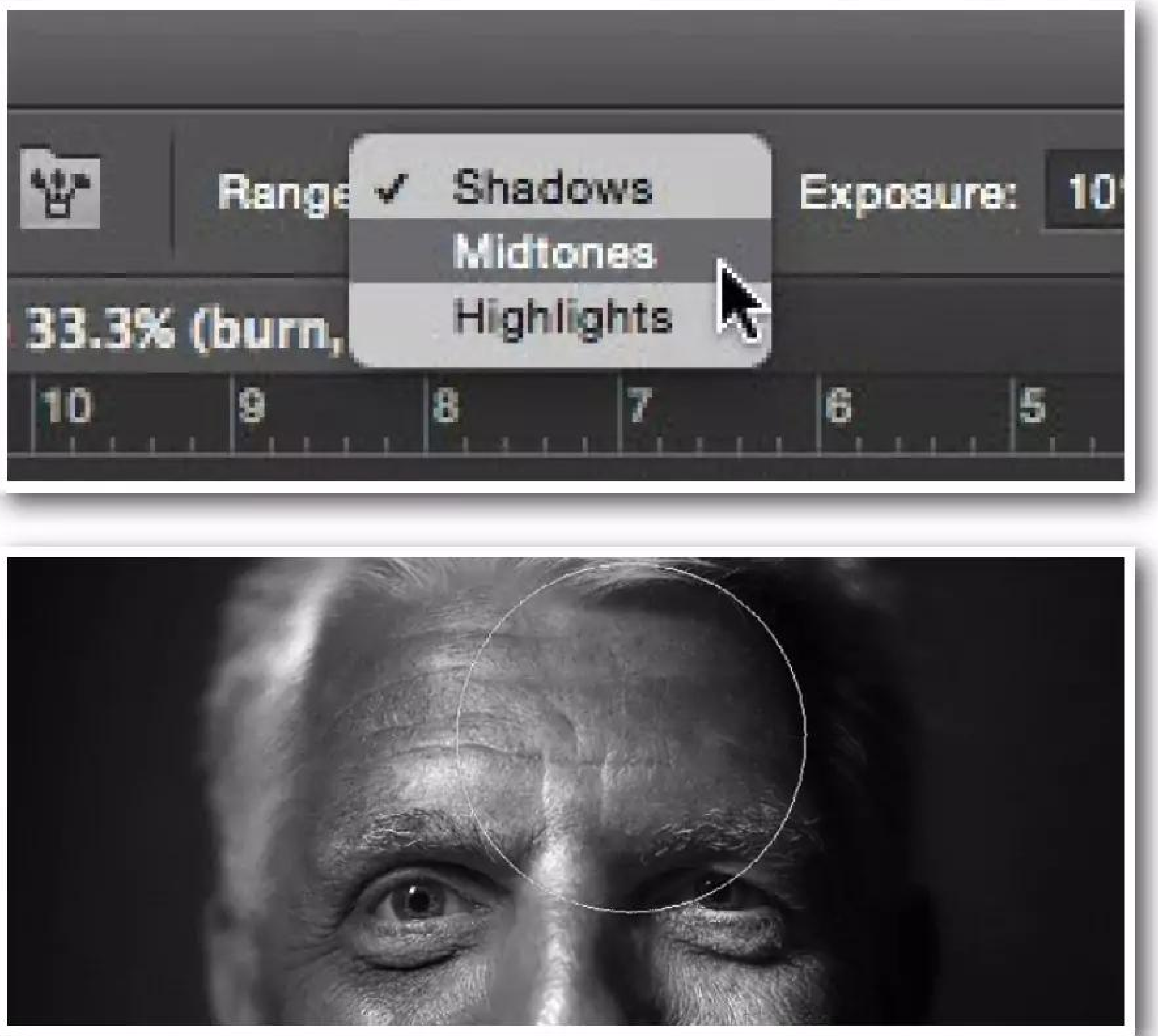
10 Go to your toolbar and select the Burn tool from the Dodge and Burn flyout panel. Make sure the Range value is now set to Shadows. The others can remain the same as we want the burn effects to be equally subtle in their application.



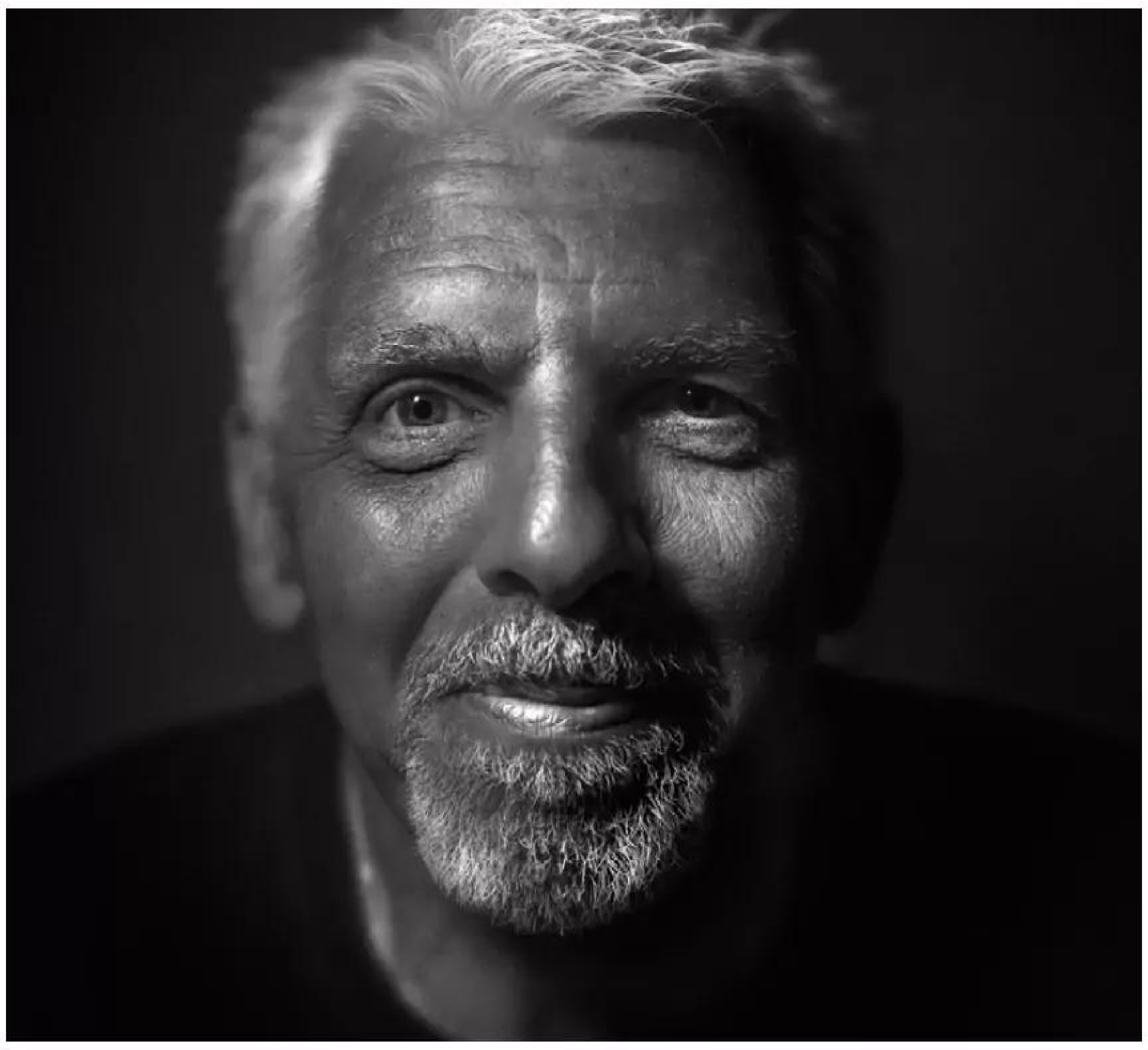
11 Begin painting over the darker areas of the face such as under the eyes, nose and the shadows on the right side of the face. The idea here is to darken existing dark areas to increase the tonal range between them and the highlights.



12 If required, you can make the size of the brush larger or smaller by pressing the bracket keys on your keyboard. The [key will decrease the brush size, while the] key will increase it.



13 If you go to the top context menu and change the range value to Mid-tones, you can work on the tonal values that sit between highlight and shadow areas.



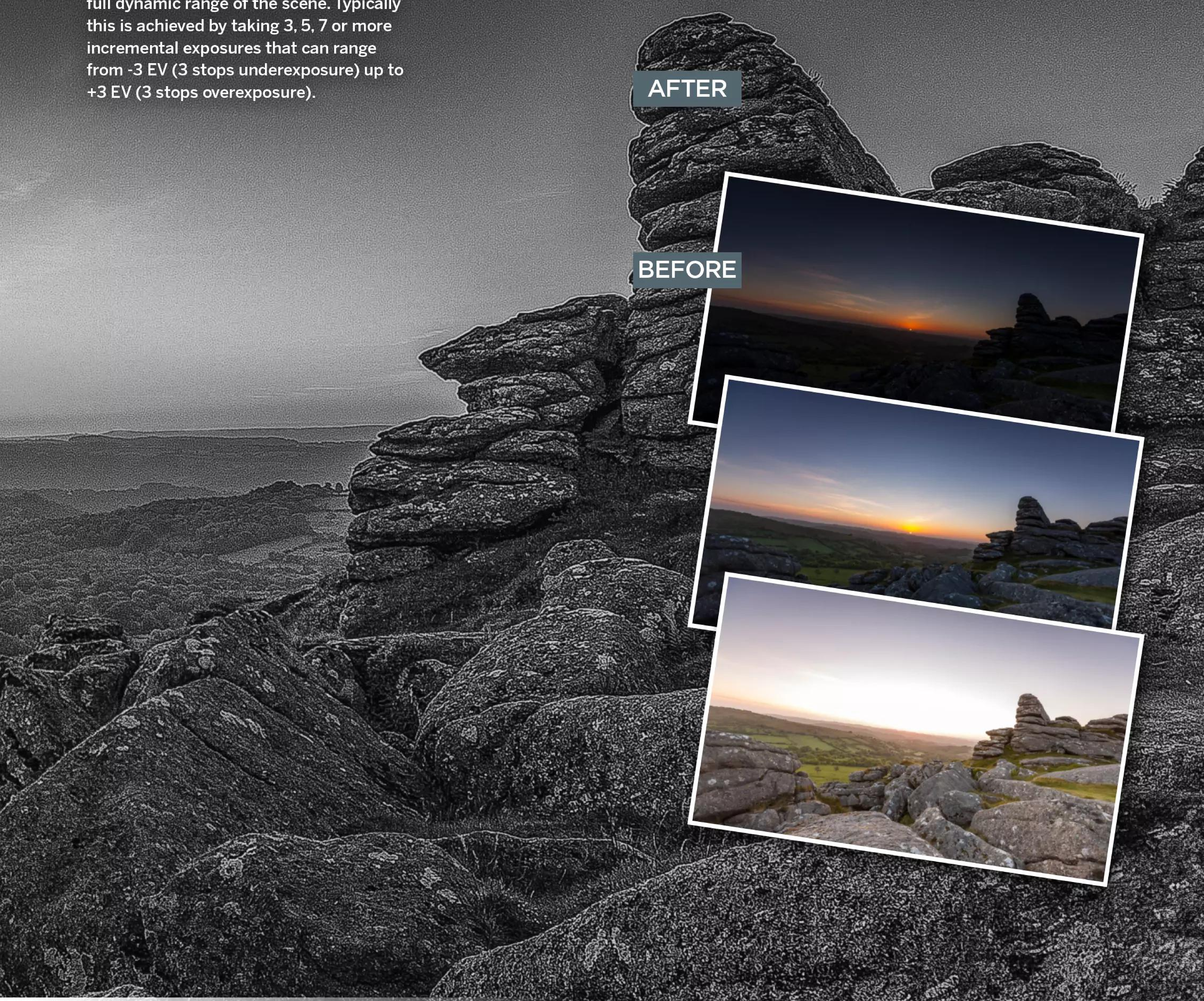
14 Our image has now been dodged (lightened) and burned (darkened) in key areas to lift the original low-contrast image. It is now much more striking, thanks to a bespoke set of adjustments that default Brightness and Contrast couldn't achieve.

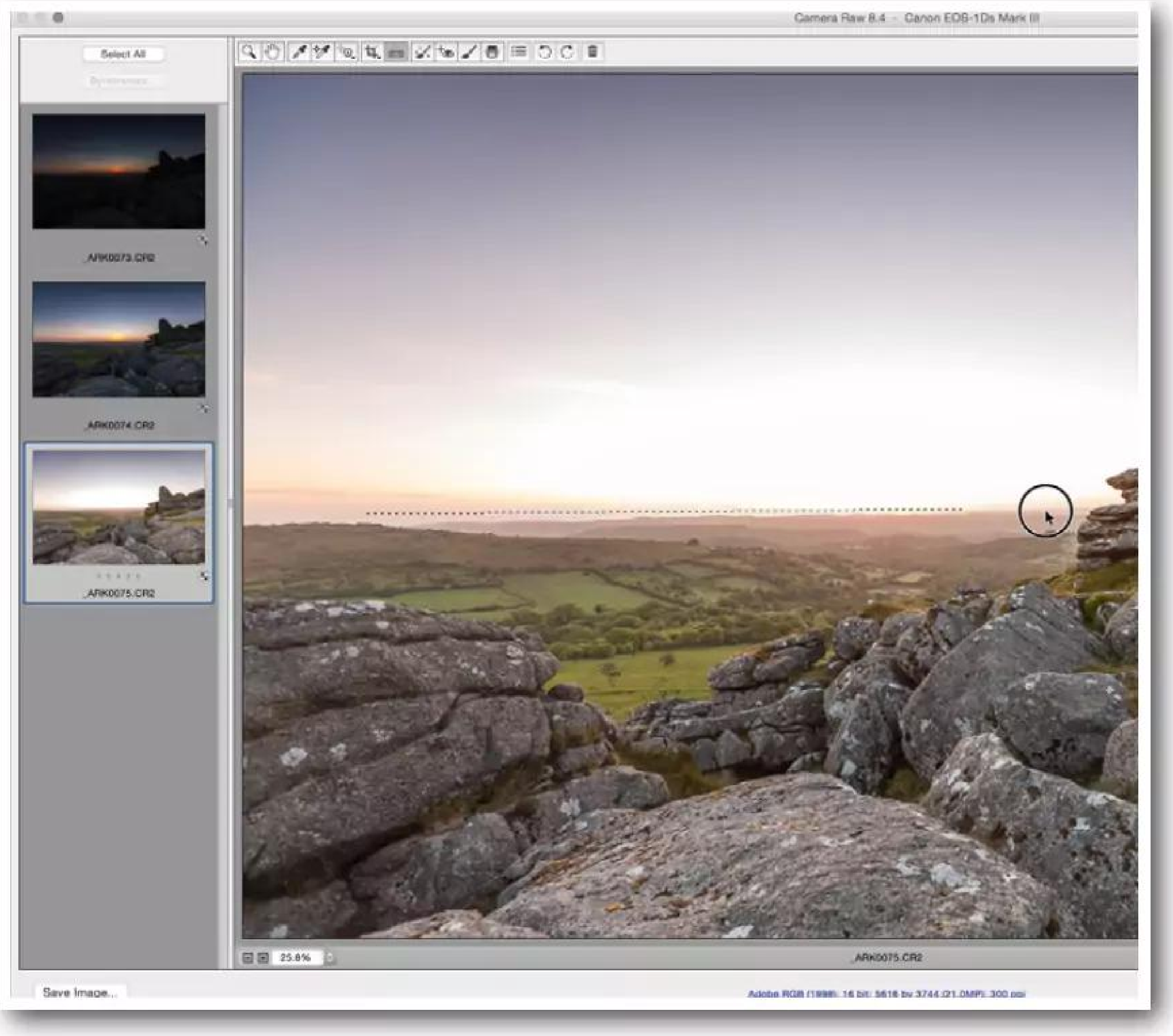
HDR for black and white conversion

HDR IMAGES ARE GREAT SOURCE MATERIAL FOR BLACK AND WHITE CONVERSION

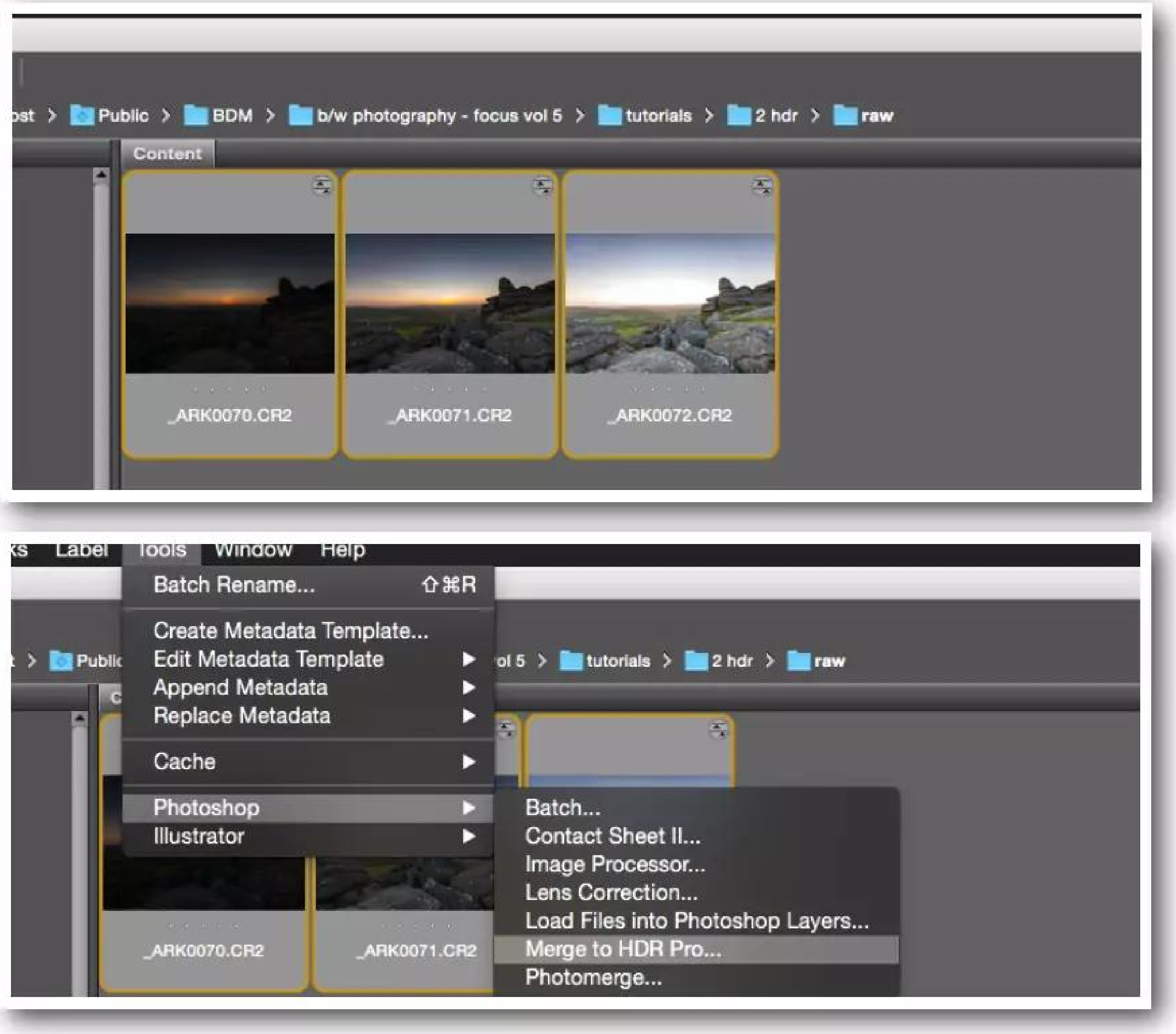
It is often the case when out on a shoot that you will encounter a situation where the lighting conditions and dynamic range of the scene you are trying to capture are beyond the capability of your camera. If you expose the shot for the sky, your foreground can become too dark; but if you expose the scene so the shadow areas are correct, then the sky overexposes to the point where detail is lost. As long as you have a tripod you can get around this issue by taking multiple exposures that encompass the full dynamic range of the scene. Typically this is achieved by taking 3, 5, 7 or more incremental exposures that can range from -3 EV (3 stops underexposure) up to +3 EV (3 stops overexposure).

This group of captures is the basis of creating a single file that incorporates all that data, and which can be manipulated as if you were working on a single, standard Raw file. HDR images tend to work best with static images, shot with a large depth of field, where nothing is moving through the frame. A moving object will appear as a ghost image in the final combined exposures. For our example here, we have three Raw files that were shot at -2 EV, 0 EV and +2 EV. Because you are using a tripod, you can set your ISO speed to its lowest setting in order to reduce the amount of image noise present in each exposure. When merging shots for HDR, noise is additive; so the more noise present in each shot, the more will be present in the finished HDR.

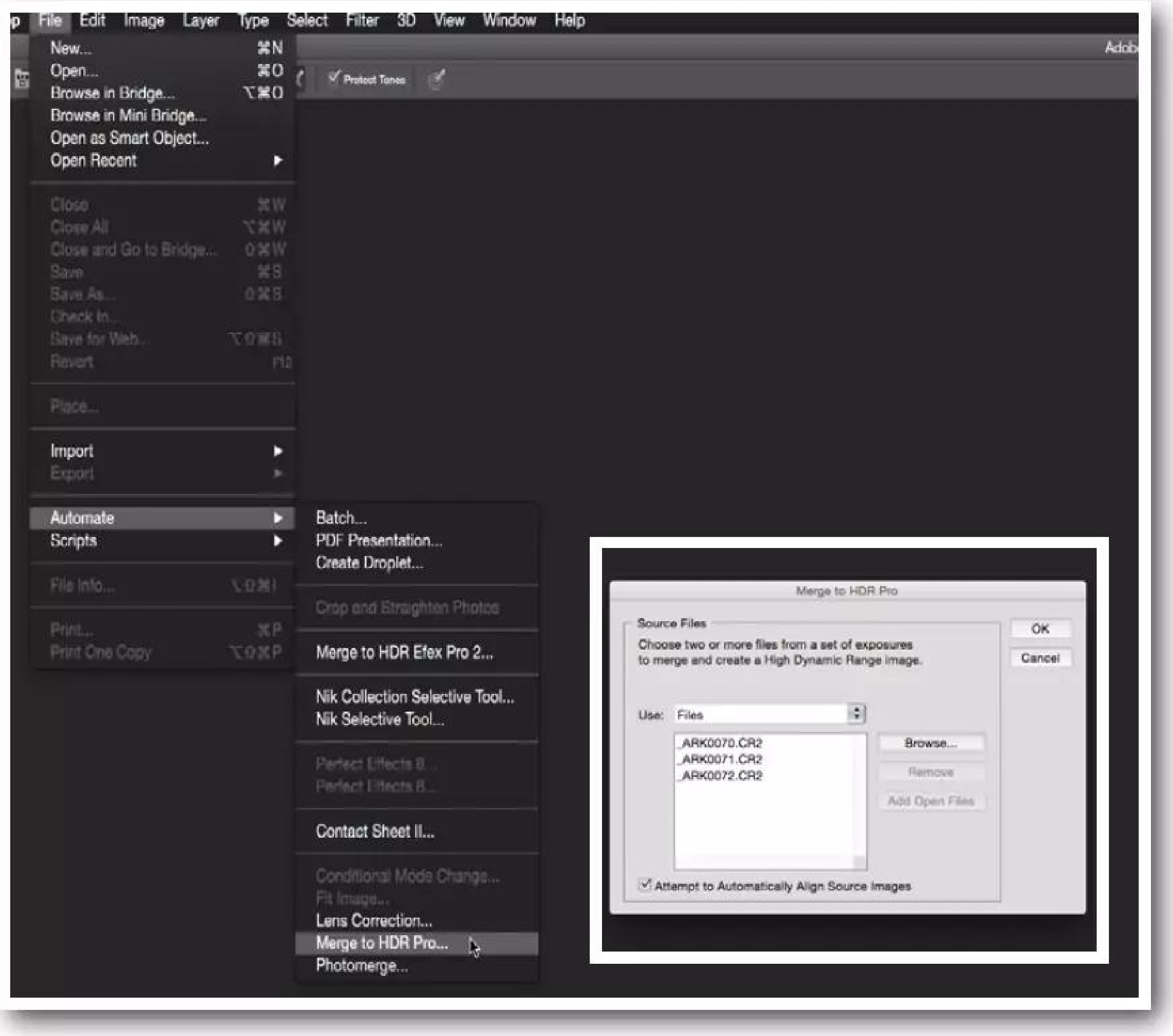



Camera Raw 8.4 - Canon EOS-1Ds Mark III
Select All
_ARK0073.CR2
_ARK0074.CR2
_ARK0075.CR2
Save Image...

01 To begin with, we did some very basic editing to each of the Raw files in Adobe Camera Raw. Not least, to make sure the horizon was straight and the shadows and highlights in each file weren't so extreme that image data was being lost.

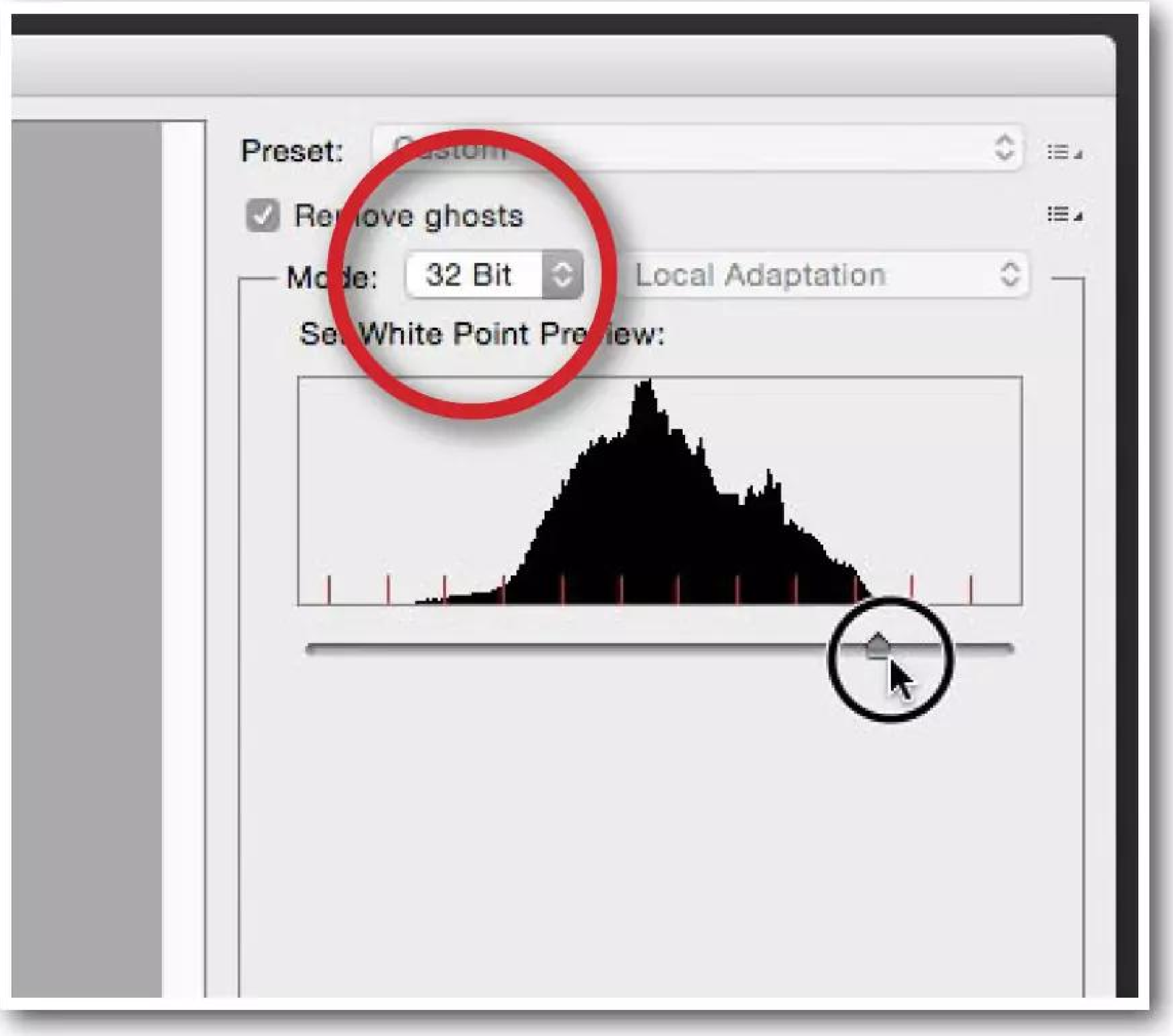

Public > BDM > b/w photography - focus vol 5 > tutorials > 2 hdr > raw
Content
_ARK0070.CR2
_ARK0071.CR2
_ARK0072.CR2
Label
Tools
Window
Help
Batch Rename... ⇧⌘R
Create Metadata Template...
Edit Metadata Template
Append Metadata
Replace Metadata
Cache
Photoshop
Illustrator
Batch...
Contact Sheet II...
Image Processor...
Lens Correction...
Load Files into Photoshop Layers...
Merge to HDR Pro...
Photomerge...

02 If you are using Adobe Bridge, you can select the multiple images required and right mouse click to open a context menu. From here you can select Tools > Photoshop > Merge to HDR Pro to begin the merging process.


File
Edit
Image
Layer
Type
Select
Filter
3D
View
Window
Help
New...
Open...
Browse in Bridge...
Browse in Mini Bridge...
Open as Smart Object...
Open Recent
Close
Close All
Close and Go to Bridge...
Save
Save As...
Check In...
Save for Web...
Revert
Place...
Import
Export
Automate
Scripts
File Info...
Print...
Print One Copy
Batch...
PDF Presentation...
Create Droplet...
Crop and Straighten Photos
Merge to HDR Efex Pro 2...
Nik Collection Selective Tool...
Nik Selective Tool...
Perfect Effects 8...
Perfect Effects 8...
Contact Sheet II...
Conditional Mode Change...
Fit Image...
Lens Correction...
Merge to HDR Pro...
Photomerge...
Merge to HDR Pro
Source Files
OK
Cancel
Use: Files
_ARK0070.CR2
_ARK0071.CR2
_ARK0072.CR2
Browse...
Remove
Add Open Files
☑ Attempt to Automatically Align Source Images

Choose two or more files from a set of exposures to merge and create a High Dynamic Range image.

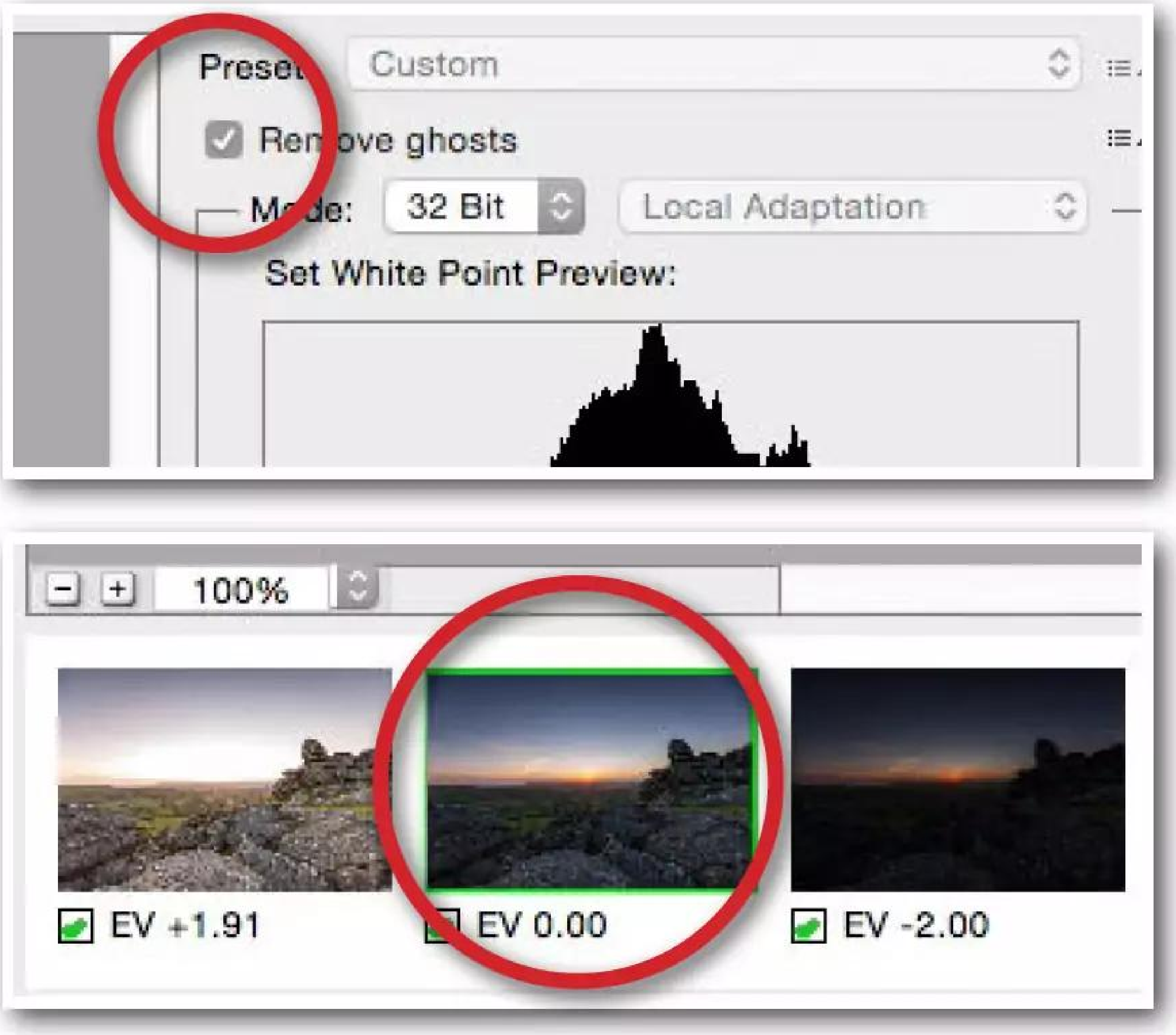
03 You can also browse to your chosen files via File > Automate > Merge to HDR Pro whilst in Photoshop itself, or you can use Mini Bridge as an alternative means of navigation. Select your bracketed files and click OK.



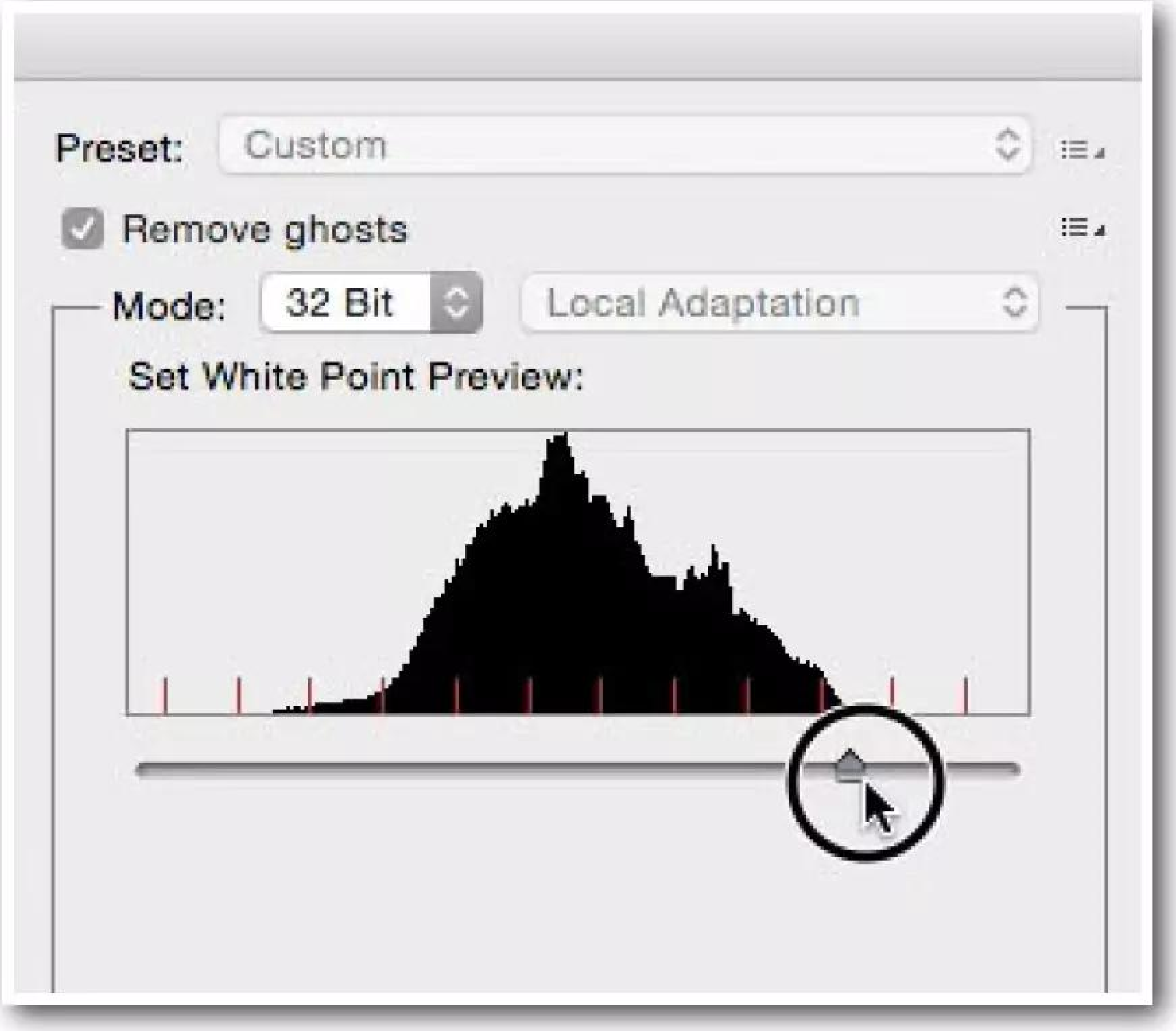
Preset: Custom
☑ Remove ghosts
Mode: 32 Bit
Local Adaptation
Set White Point Preview:

04 When the files are merged, the Merge to HDR Pro dialog box will open. From here it is a simple process. Make sure that the Mode selection tab is set to 32 bit.

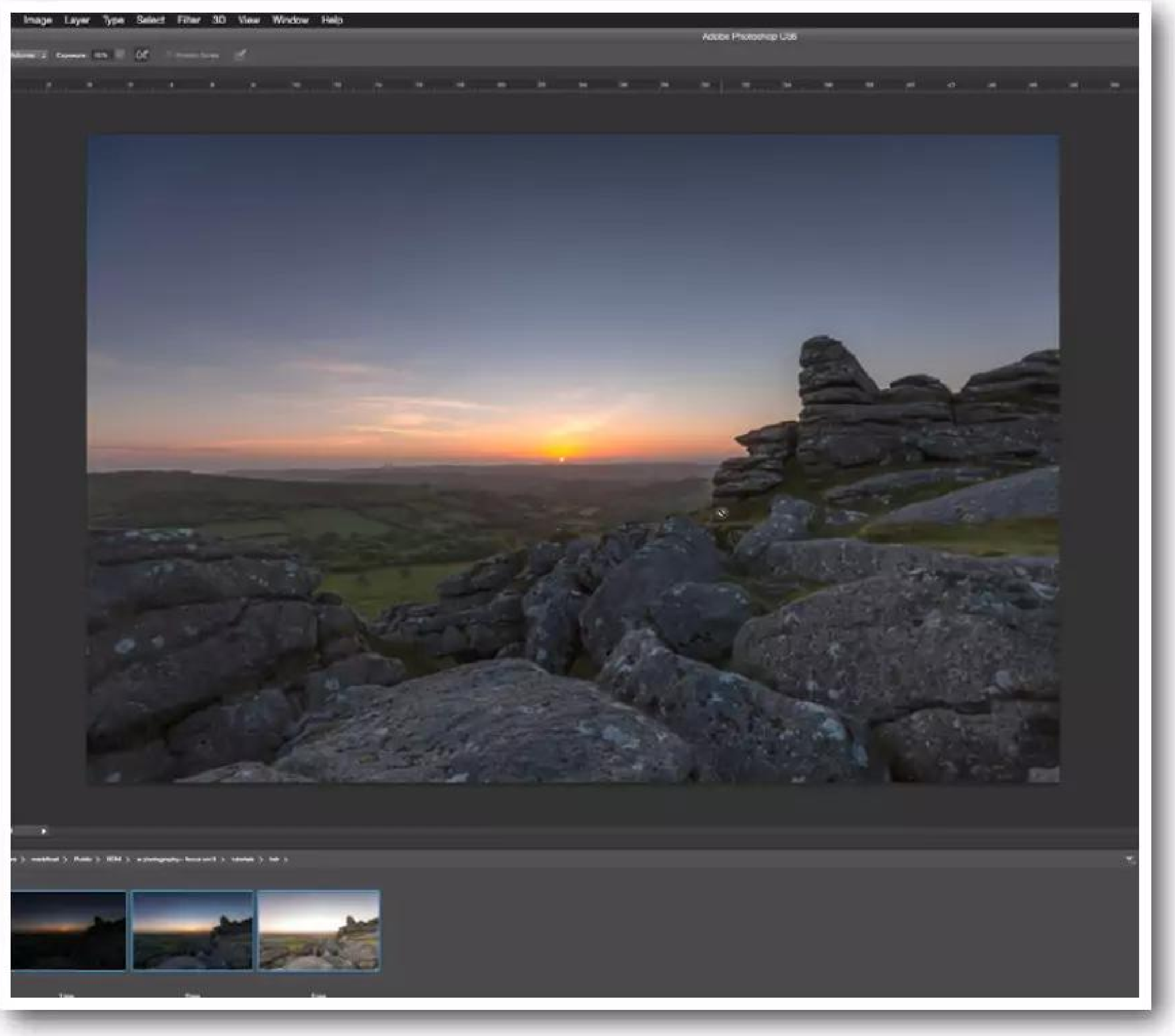
HDR for black and white conversion


Preset: Custom
☑ Remove ghosts
Mode: 32 Bit
Local Adaptation
Set White Point Preview:
100%
☑ EV +1.91
☐ EV 0.00
☑ EV -2.00

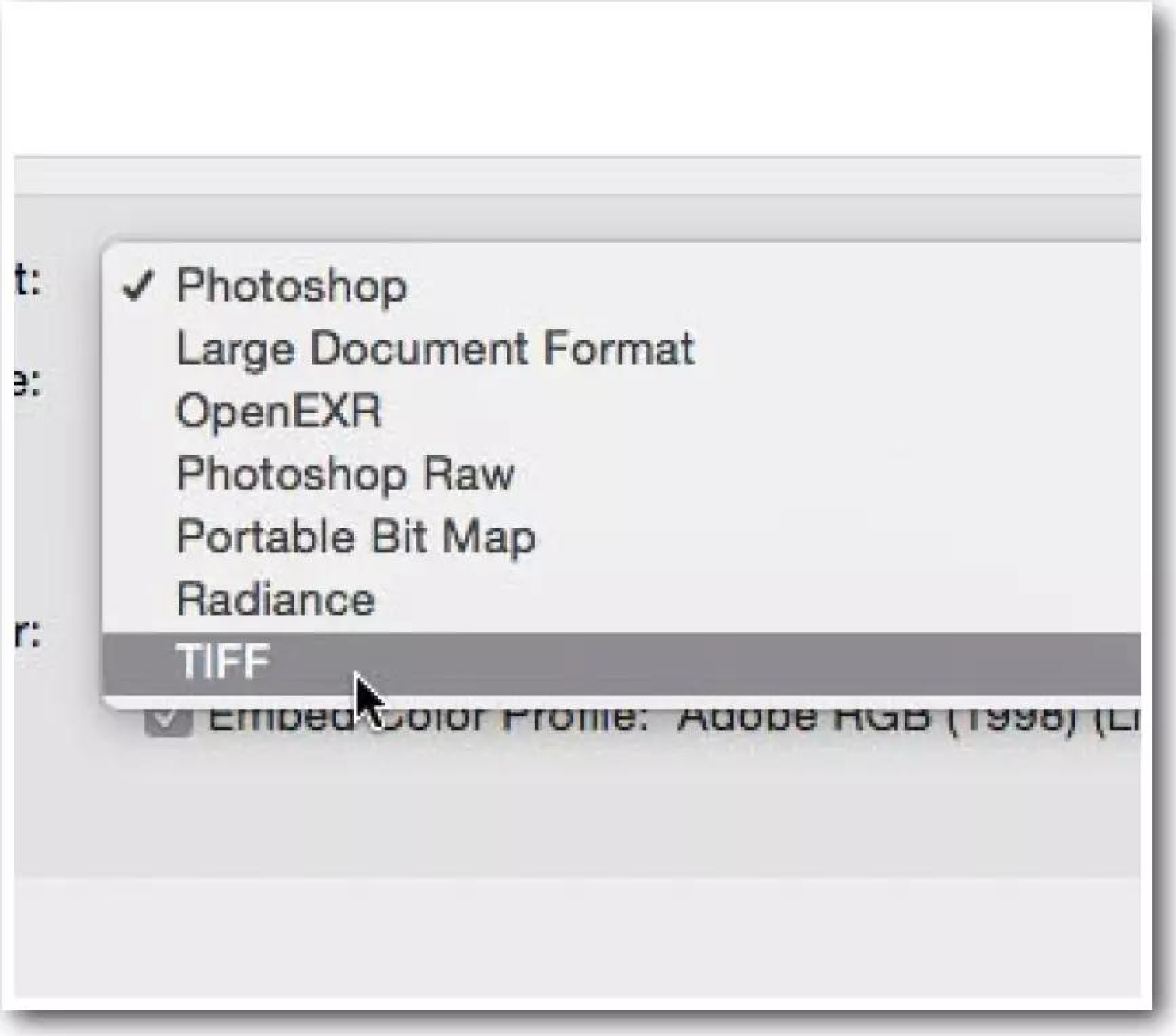
05 If your multiple images have moving objects (such as clouds), make sure that the Remove Ghosts checkbox is selected. You can click on any of your images to use as the template for the de-ghost process.


Preset: Custom
☑ Remove ghosts
Mode: 32 Bit
Local Adaptation
Set White Point Preview:

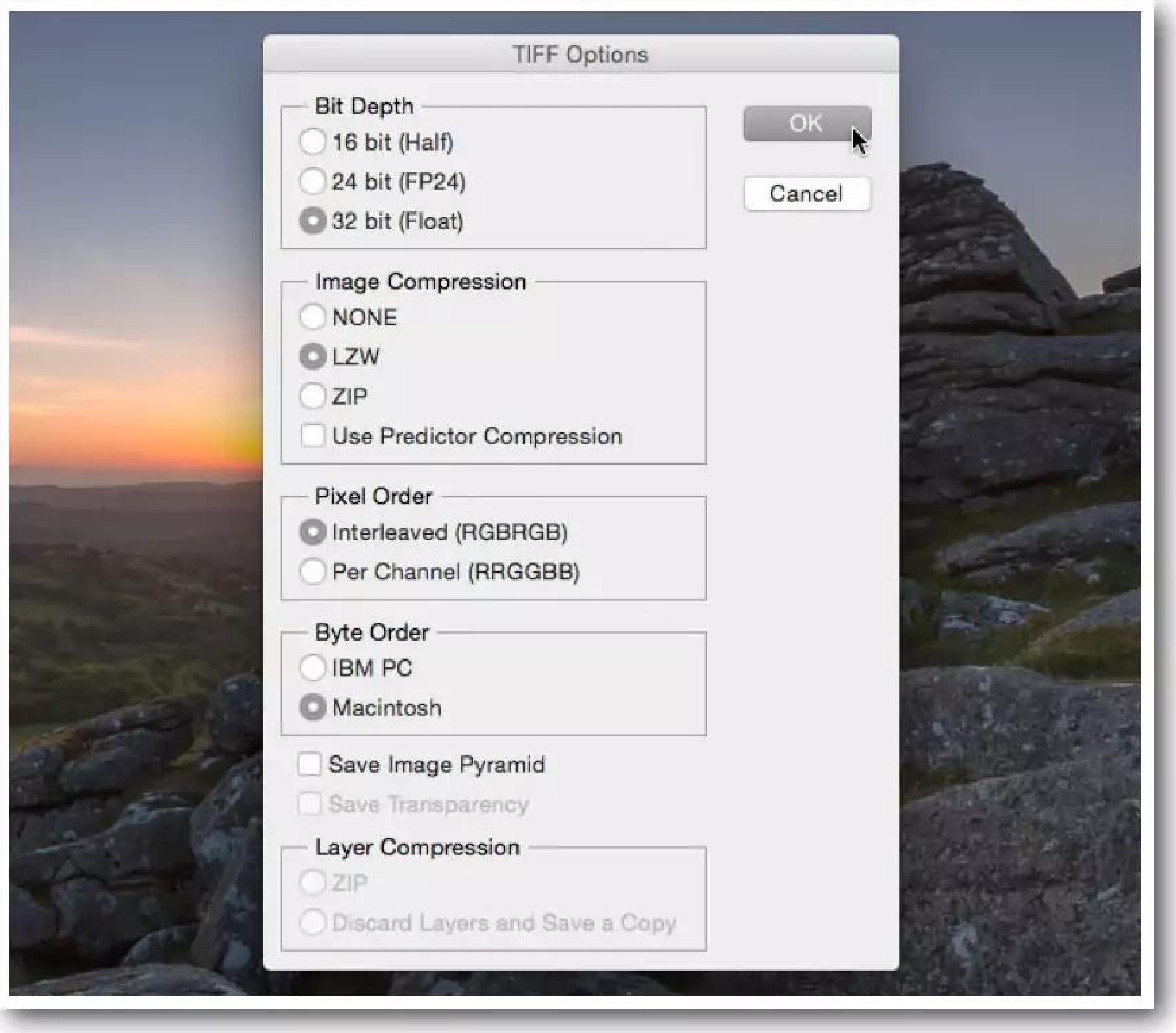
06 The Set White Point Preview slider actually has no effect on the resulting image. It is just there for you to choose how light or dark an image you want to use as a preview. Click OK and the 32 bit file will be created.



07 This newly created image will be displayed in Photoshop. The top-left corner of your image document window should now indicate that the picture is now 32 bit. Don't be worried if it doesn't look at all like you expected.


✓ Photoshop
Large Document Format
OpenEXR
Photoshop Raw
Portable Bit Map
Radiance
TIFF
Embed Color Profile: Adobe RGB (1998)

08 Next, you need to Save this file. From the main menu select File > Save As and save the image. In the Save As dialog box, make sure that the Format is set to TIFF, name your file and click Save.



TIFF Options

Bit Depth
○ 16 bit (Half)
○ 24 bit (FP24)
● 32 bit (Float)

Image Compression
○ NONE
● LZW
○ ZIP
☐ Use Predictor Compression

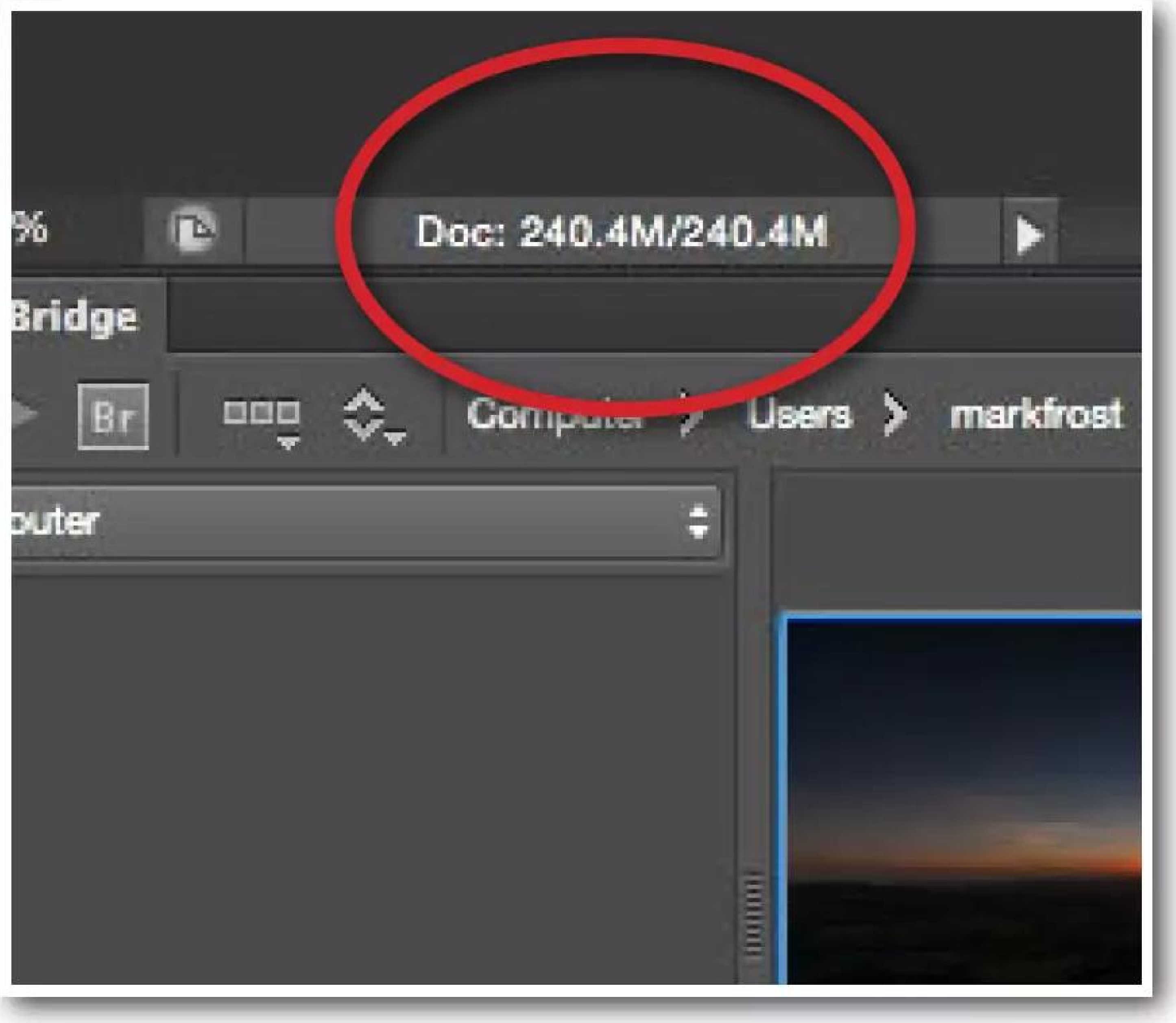
Pixel Order
● Interleaved (RGBRGB)
○ Per Channel (RRGGBB)

Byte Order
○ IBM PC
● Macintosh

☐ Save Image Pyramid
☐ Save Transparency

Layer Compression
○ ZIP
○ Discard Layers and Save a Copy

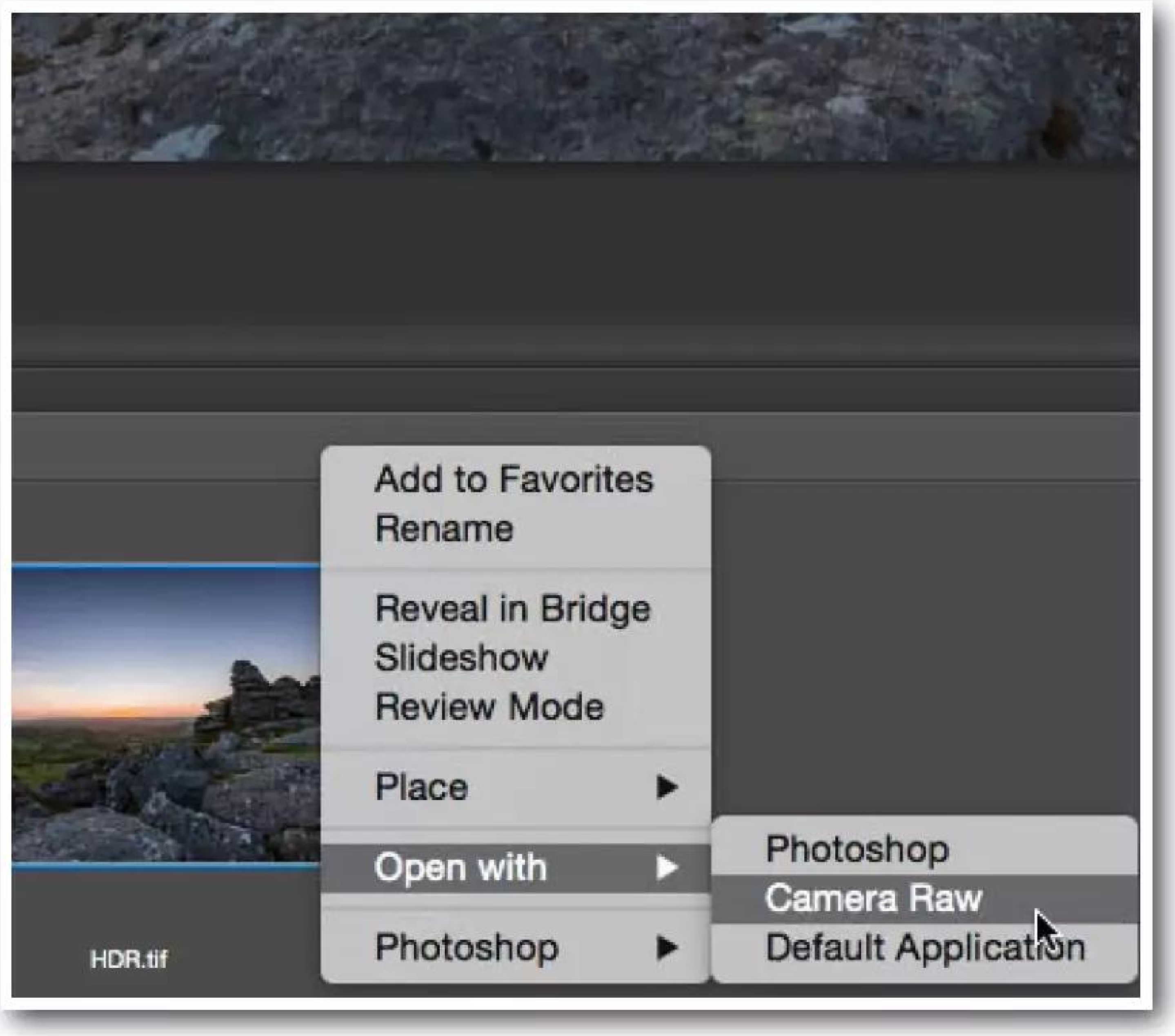
09 The TIFF Options box will appear. Make sure that 32 bit (Float) is checked in the Bit Depth section and that Image Compression is set to NONE. The other sections can be kept at default. Click OK to save and your file is ready.



Doc: 240.4M/240.4M

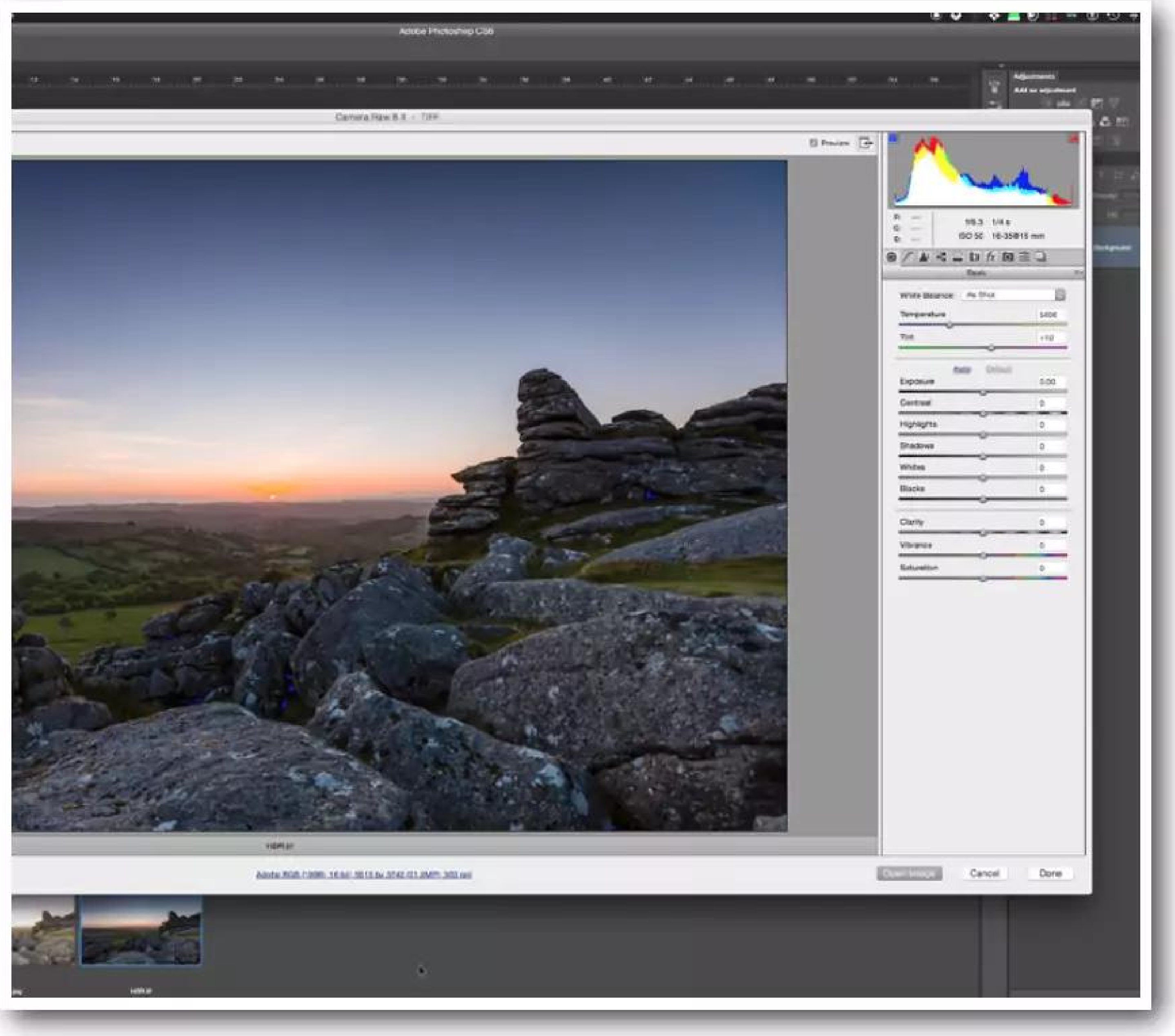
Bridge
Computer
Users
markfrost

10 It's worth noting that 32 bit floating point files are much bigger than standard images given the amount of dynamic range data it contains.



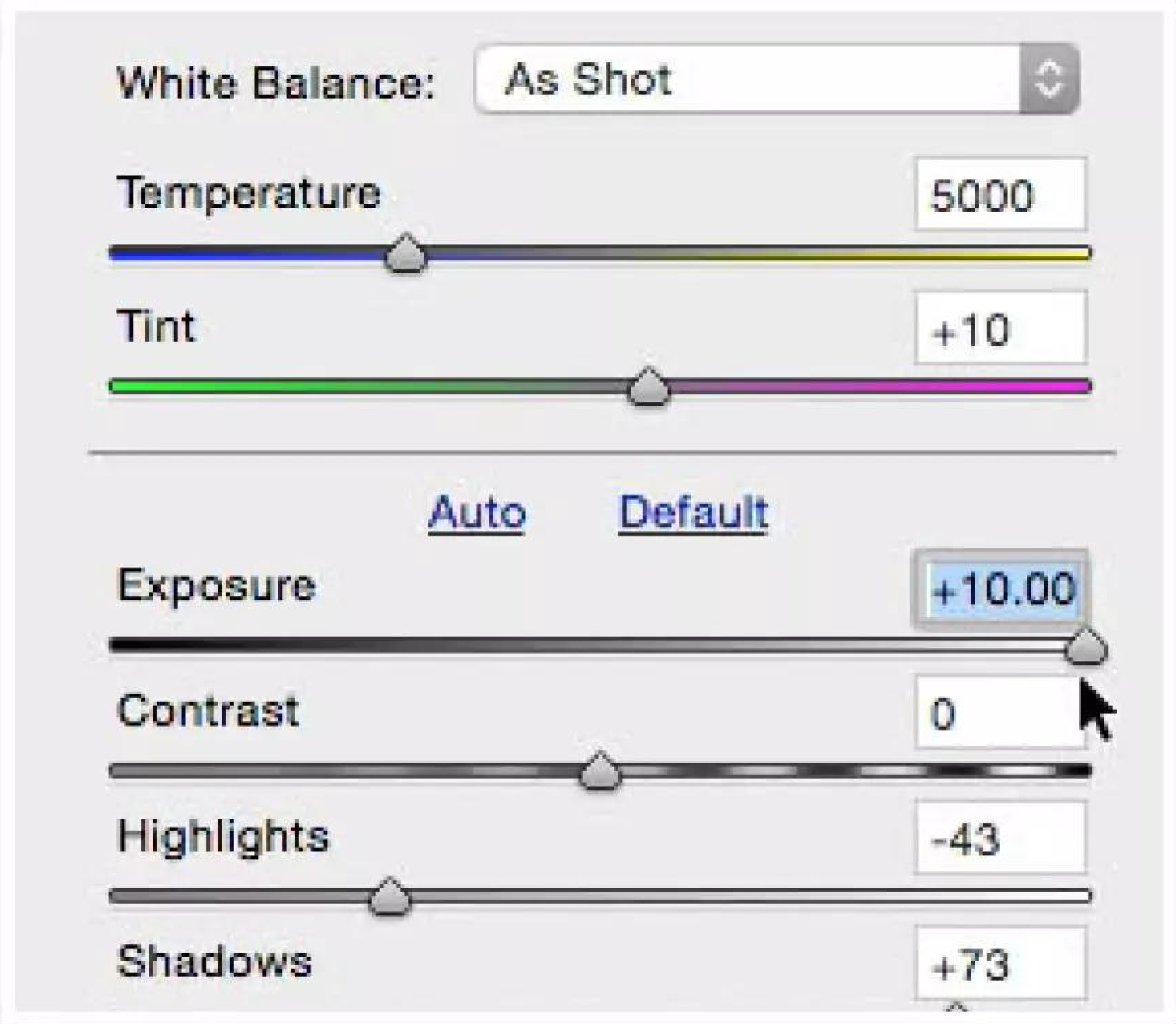
Add to Favorites
Rename
Reveal in Bridge
Slideshow
Review Mode
Place
Open with
Photoshop
Photoshop
Camera Raw
Default Application
HDR.tif

11 In our example, in Mini Bridge you can click on the 32 bit file and select Open With > Camera Raw. Alternatively, as long as your JPEG and TIFF handling options are active in the Camera Raw Preferences, you can just double-click the file and it will open in ACR by default.



12 Upon opening, you may think the image looks pretty terrible. Not to worry.

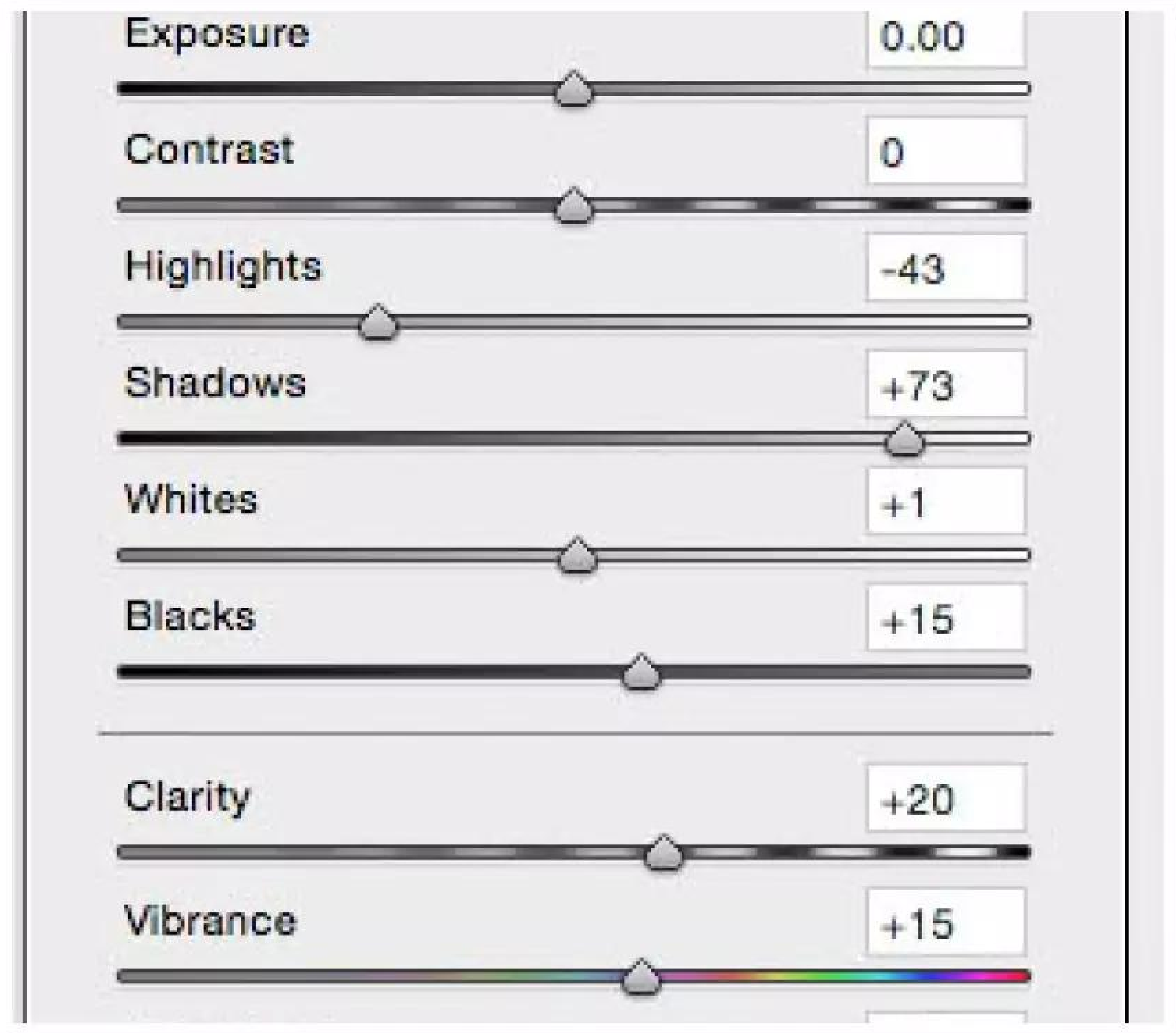
HDR for black and white conversion


White Balance: As Shot
Temperature 5000
Tint +10

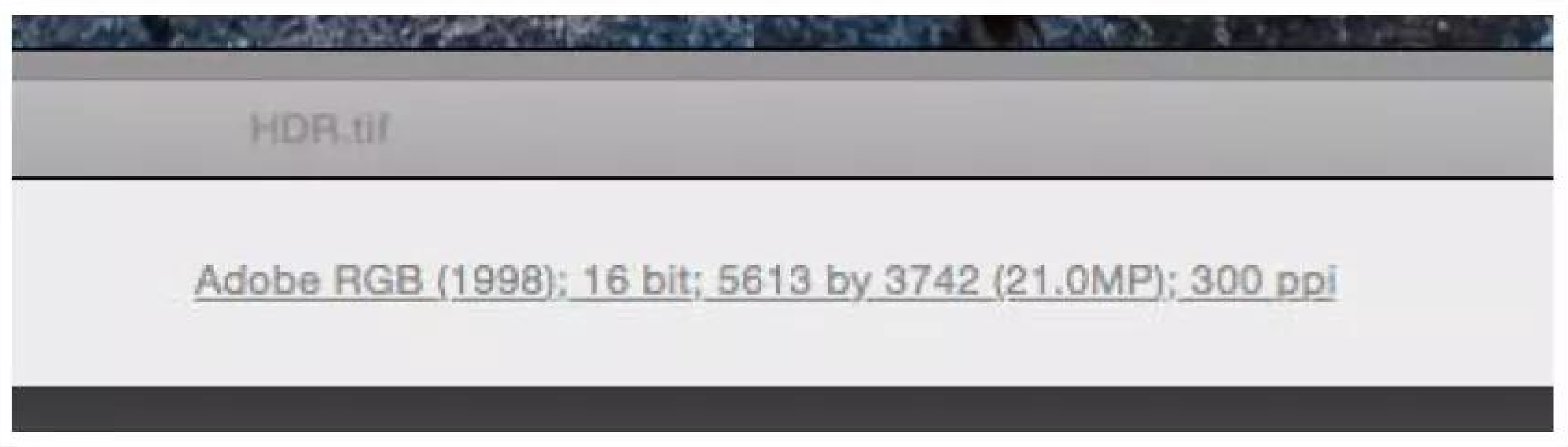
Exposure +10.00
Contrast 0
Highlights -43
Shadows +73

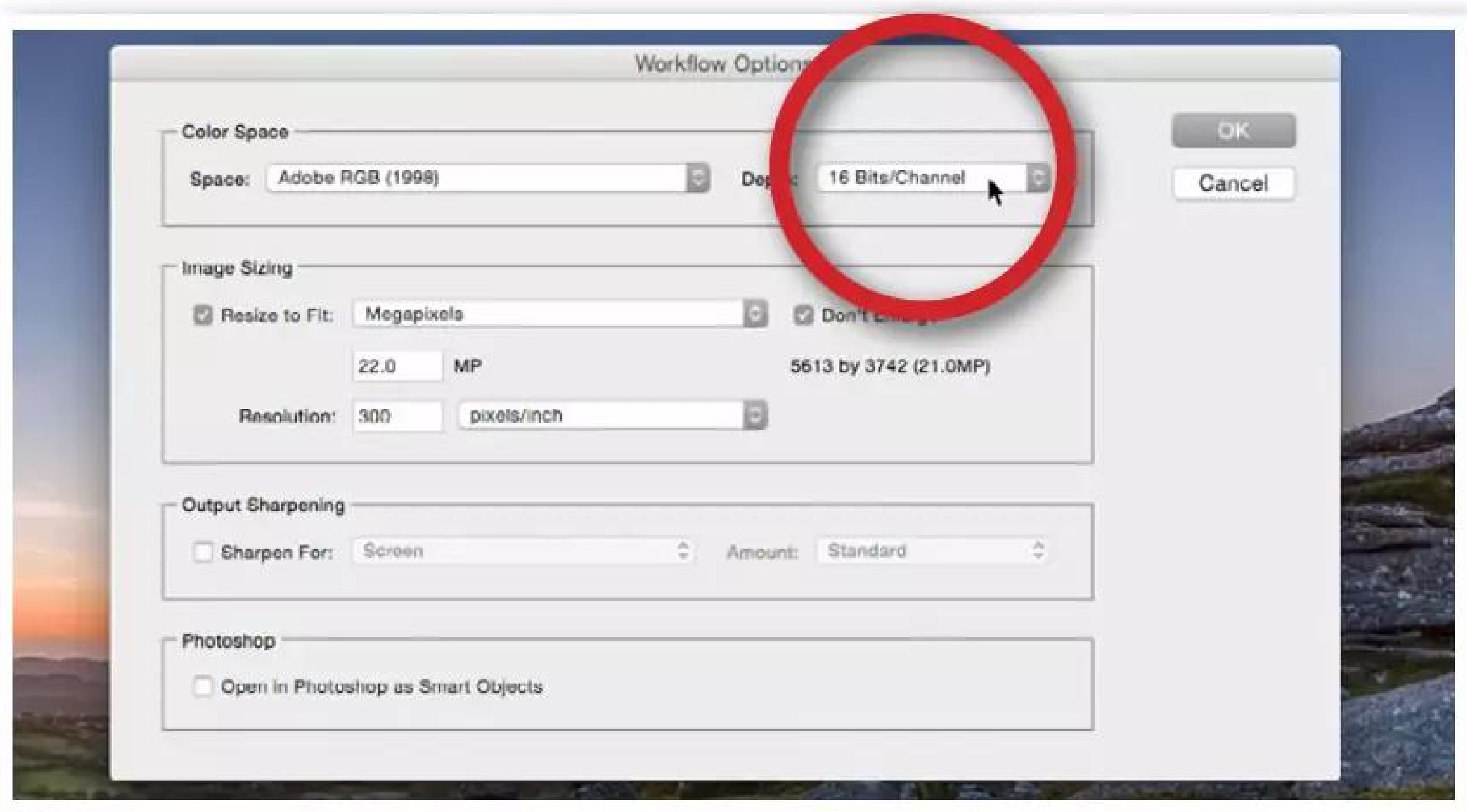
13 Something to bear in mind is that when opening and editing a standard Raw file you only have 10 stops of exposure range from -5 EV up to +5 EV. With your newly opened 32 bit file you actually have 20 stops of exposure adjustment available to you. The exposure slider will now go from -10 EV up to +10 EV.

14 The next stage is to process your image. This of course comes down to personal taste, but the starting point is to alter the Highlights and Shadows sliders to reduce the exposure in the highlights and lighten the shadows. You can then alter the other sliders to finesse the image to your taste.

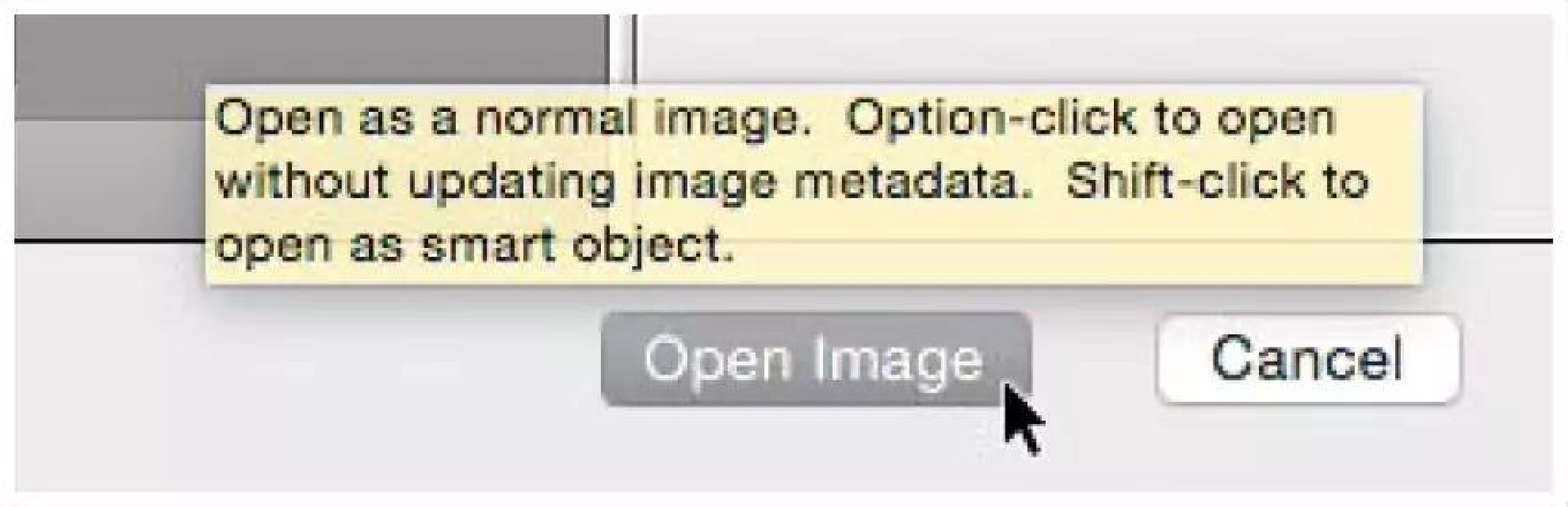

Exposure 0.00
Contrast 0
Highlights -43
Shadows +73
Whites +1
Blacks +15
Clarity +20
Vibrance +15

15 Because you are working on a 32 bit image, you can push the adjustments much further than you could with a single Raw file before it starts to degrade.


HDR.tif
Adobe RGB (1998); 16 bit; 5613 by 3742 (21.0MP); 300 ppi

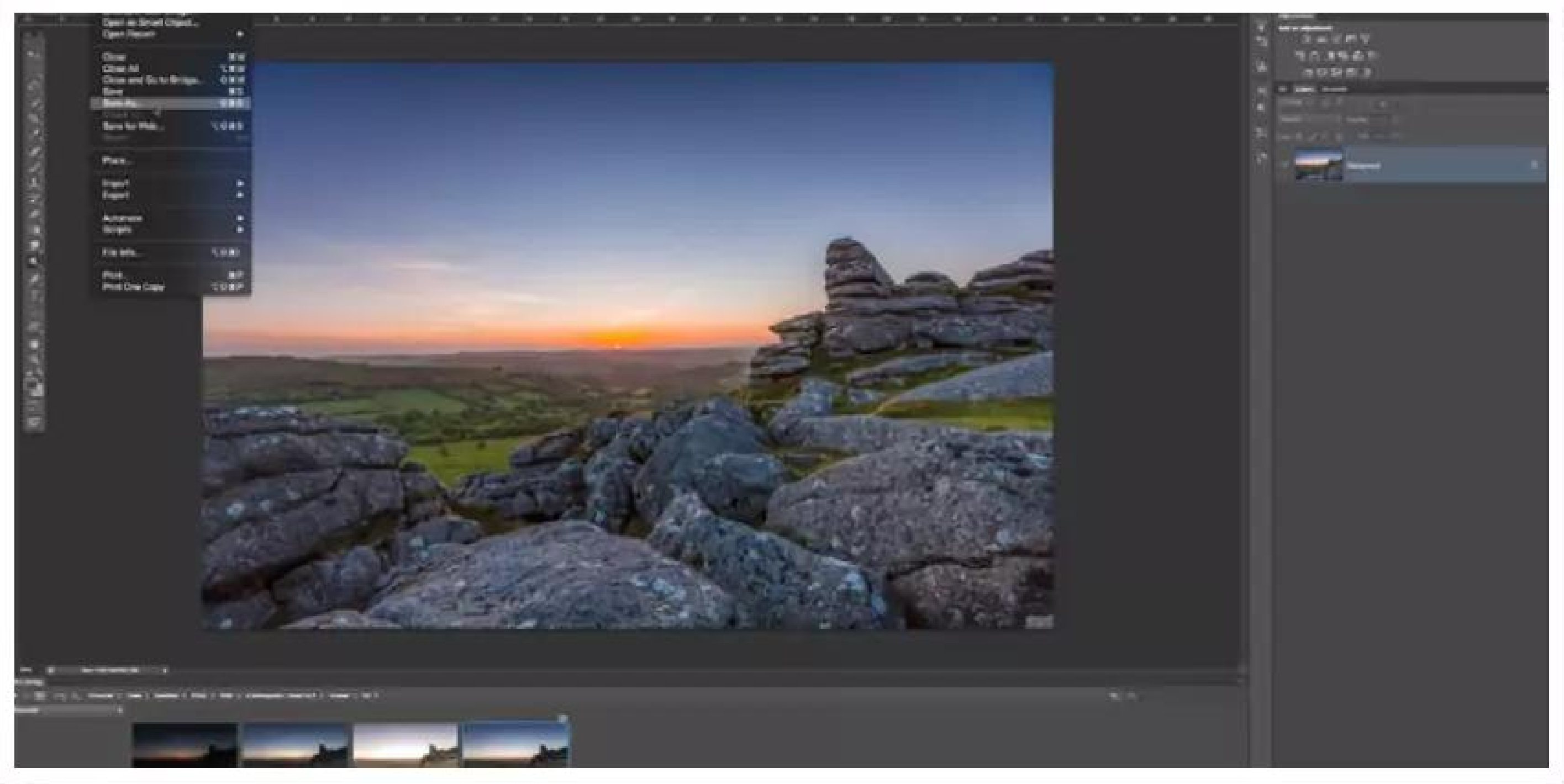

Workflow Options
Color Space
Space: Adobe RGB (1998)
Depth: 16 Bits/Channel
Image Sizing
☑ Resize to Fit: Megapixels
☑ Don't Enlarge
22.0 MP
5613 by 3742 (21.0MP)
Resolution: 300 pixels/inch
Output Sharpening
☐ Sharpen For: Screen Amount: Standard
Photoshop
☐ Open in Photoshop as Smart Objects

16 At the bottom-centre of the screen you need to click on your Workflow Options. This will open the Workflow Options dialog box. Make sure that the Bit Depth tab is set to 16 bit and click OK.

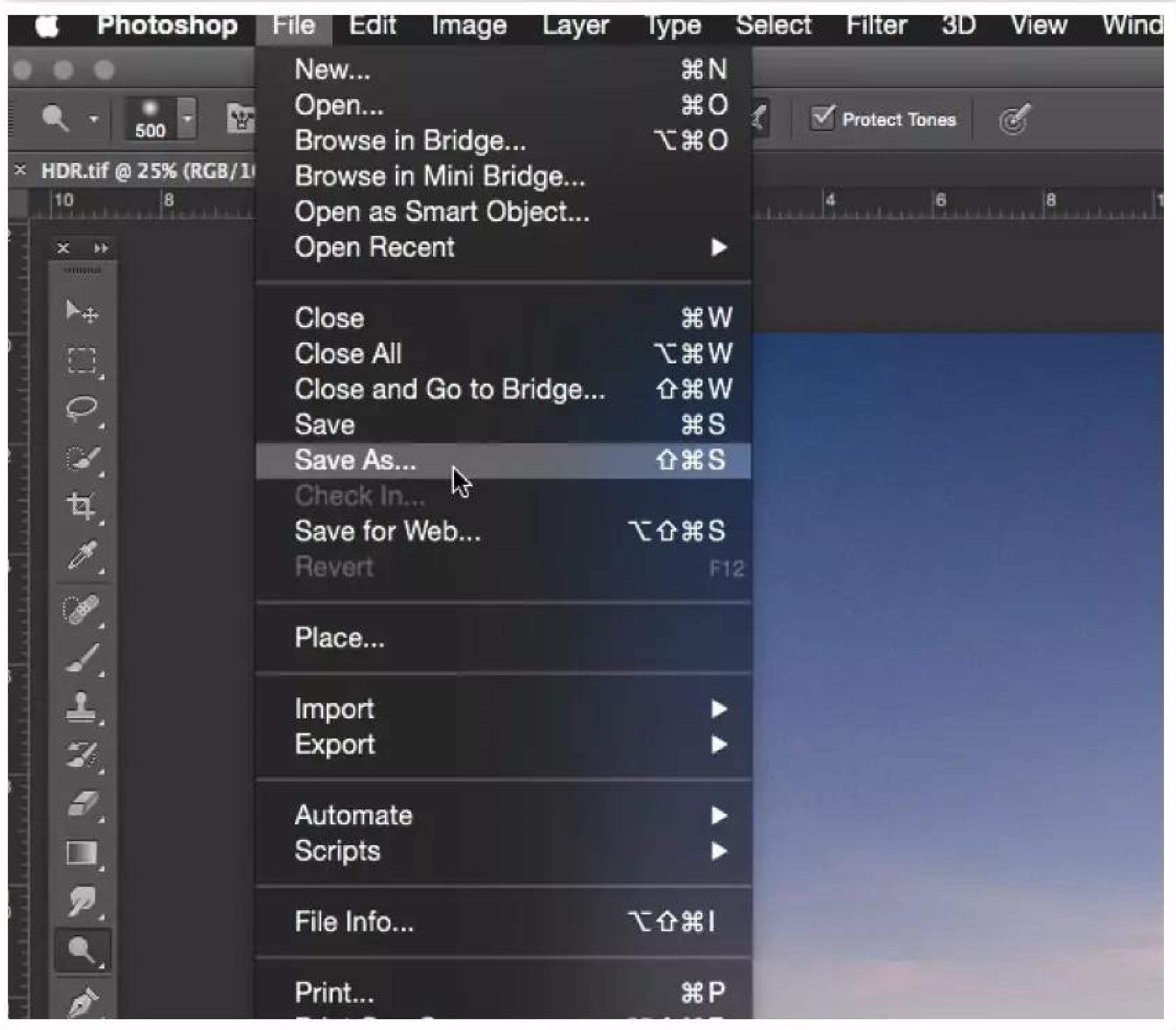


Open as a normal image. Option-click to open without updating image metadata. Shift-click to open as smart object.

Open Image
Cancel

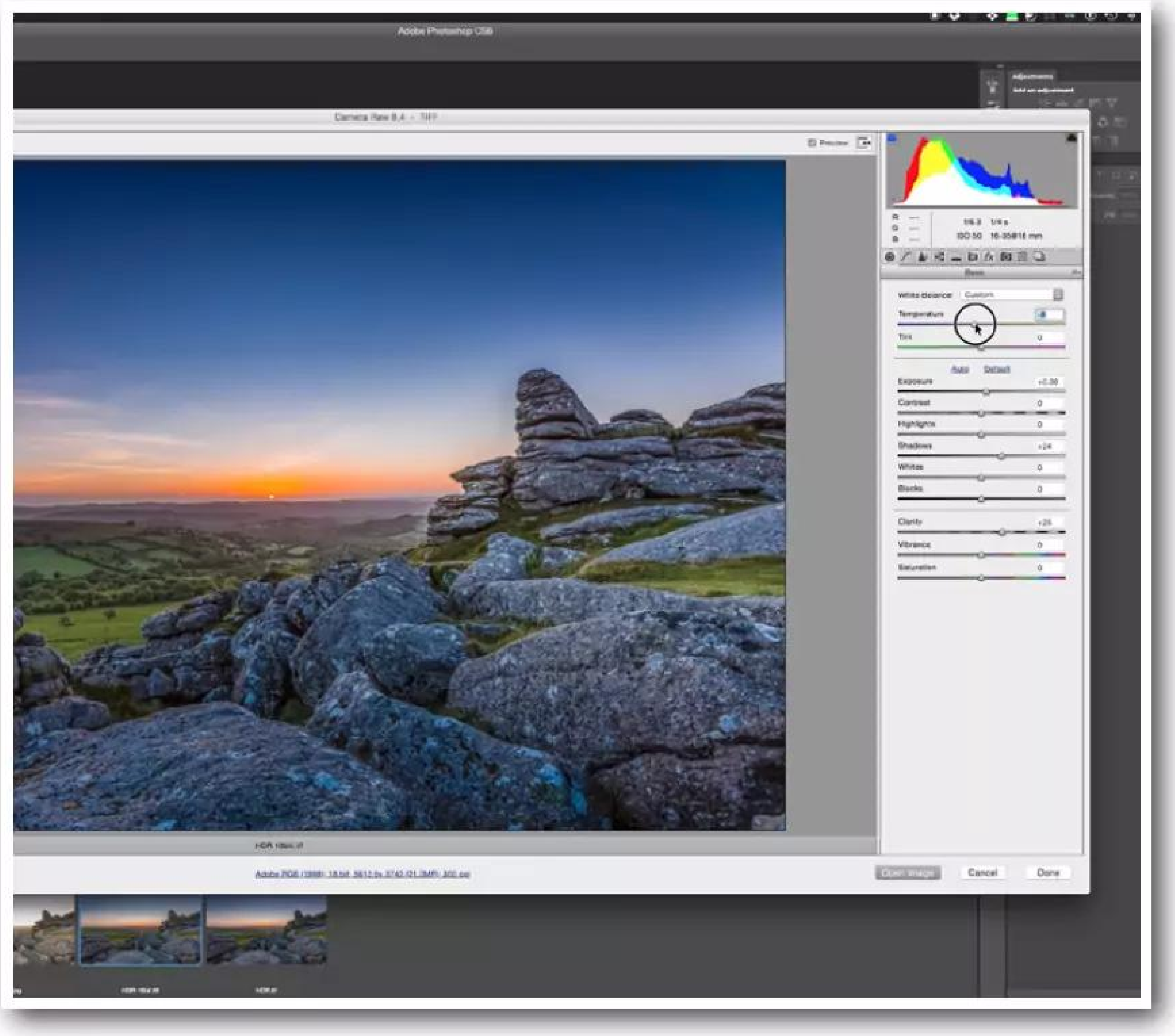


17 Now you can click the Open Image button at the bottom-right of the screen. The image will now open in Photoshop with a bit-depth of 16 bit.

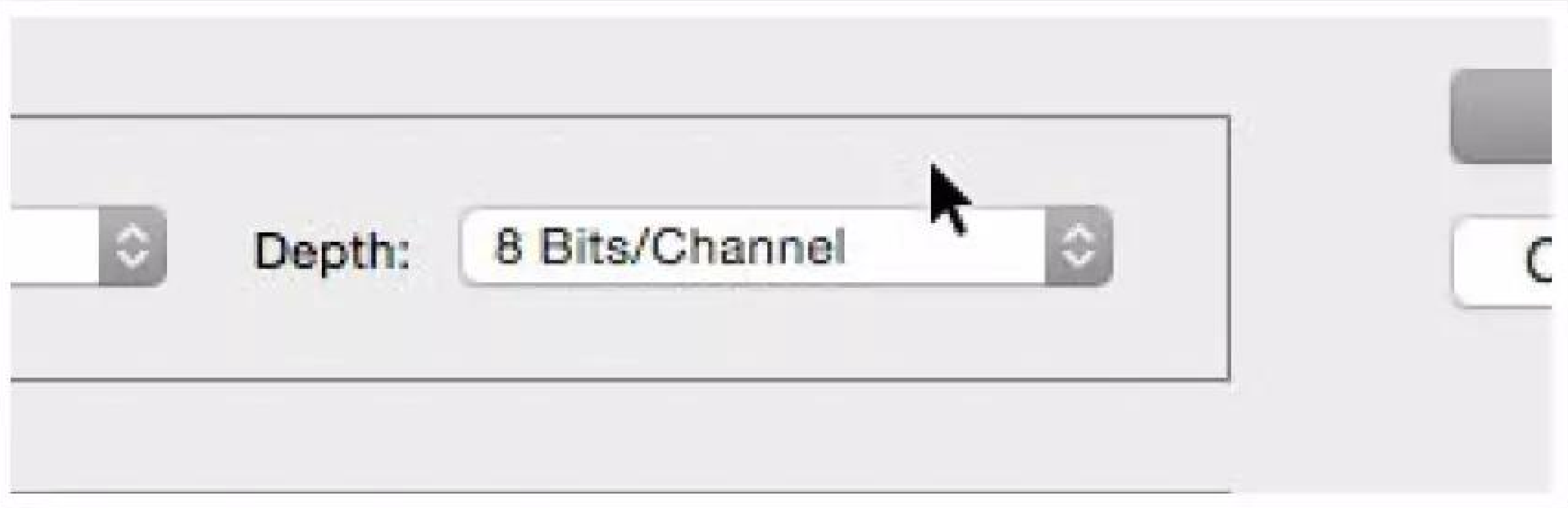


Photoshop
File
Edit
Image
Layer
Type
Select
Filter
3D
View
New... ⌘N
Open... ⌘O
Browse in Bridge... ⌥⌘O
Browse in Mini Bridge...
Open as Smart Object...
Open Recent
Close ⌘W
Close All ⌥⌘W
Close and Go to Bridge... ⇧⌘W
Save ⌘S
Save As... ⇧⌘S
Check In...
Save for Web... ⌥⇧⌘S
Revert F12
Place...
Import
Export
Automate
Scripts
File Info... ⌥⇧⌘I
Print... ⌘P
Protect Tones
HDR.tif @ 25% (RGB/1

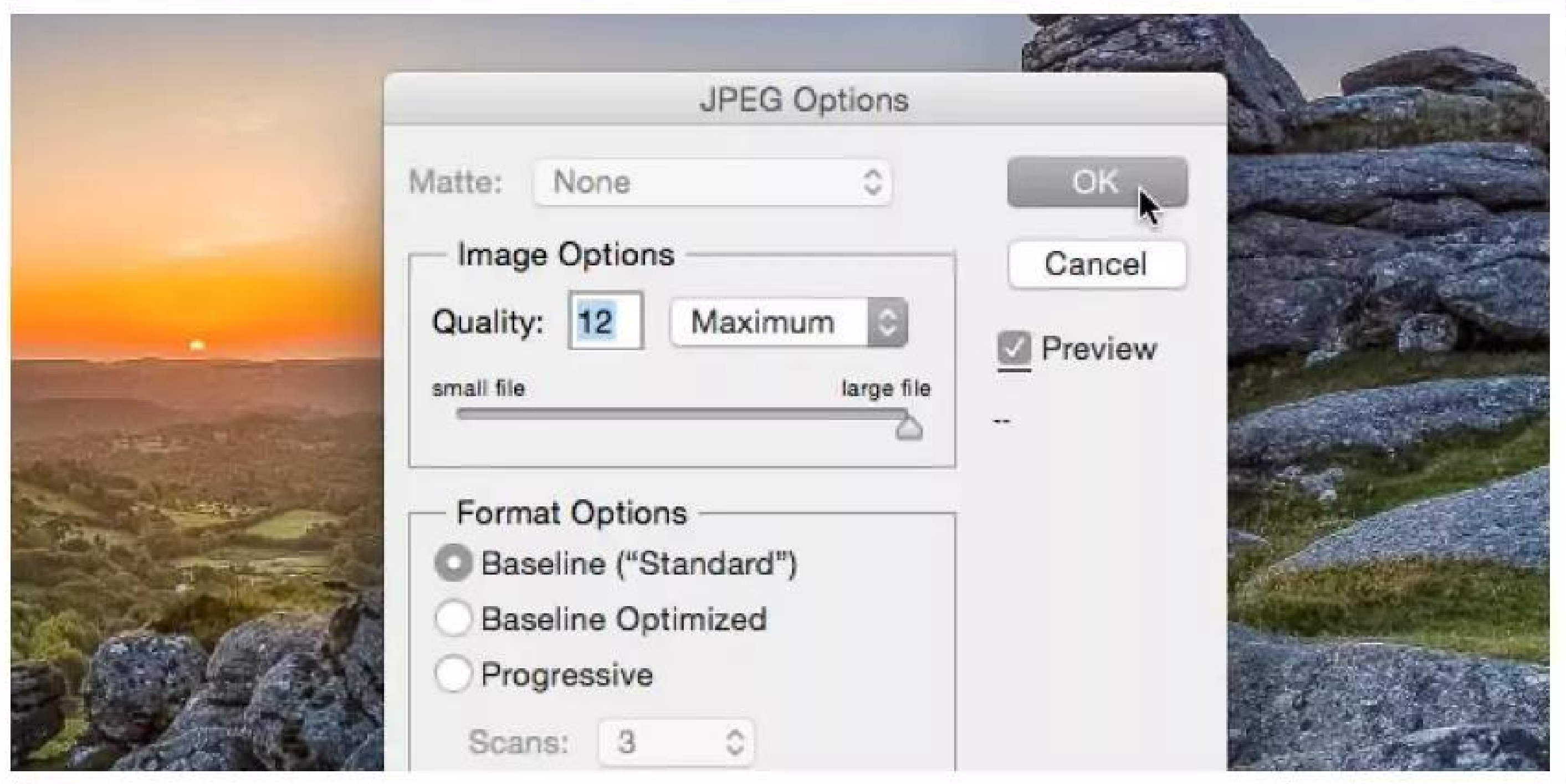
18 With the image open in Photoshop you need to go to the main menu, select File > Save As and save the image as a 16 bit TIFF with a new filename. You can keep the TIFF options as default and click OK.



19 This new image can now be opened once again in Adobe Camera Raw and processed all over again. You can really go to town on it and add all sorts of adjustment brushes, colours, grads and effects.



Depth: 8 Bits/Channel



JPEG Options

Matte: None

Image Options

Quality: 12 Maximum

Format Options

● Baseline ("Standard")

○ Baseline Optimized

○ Progressive

Scans: 3

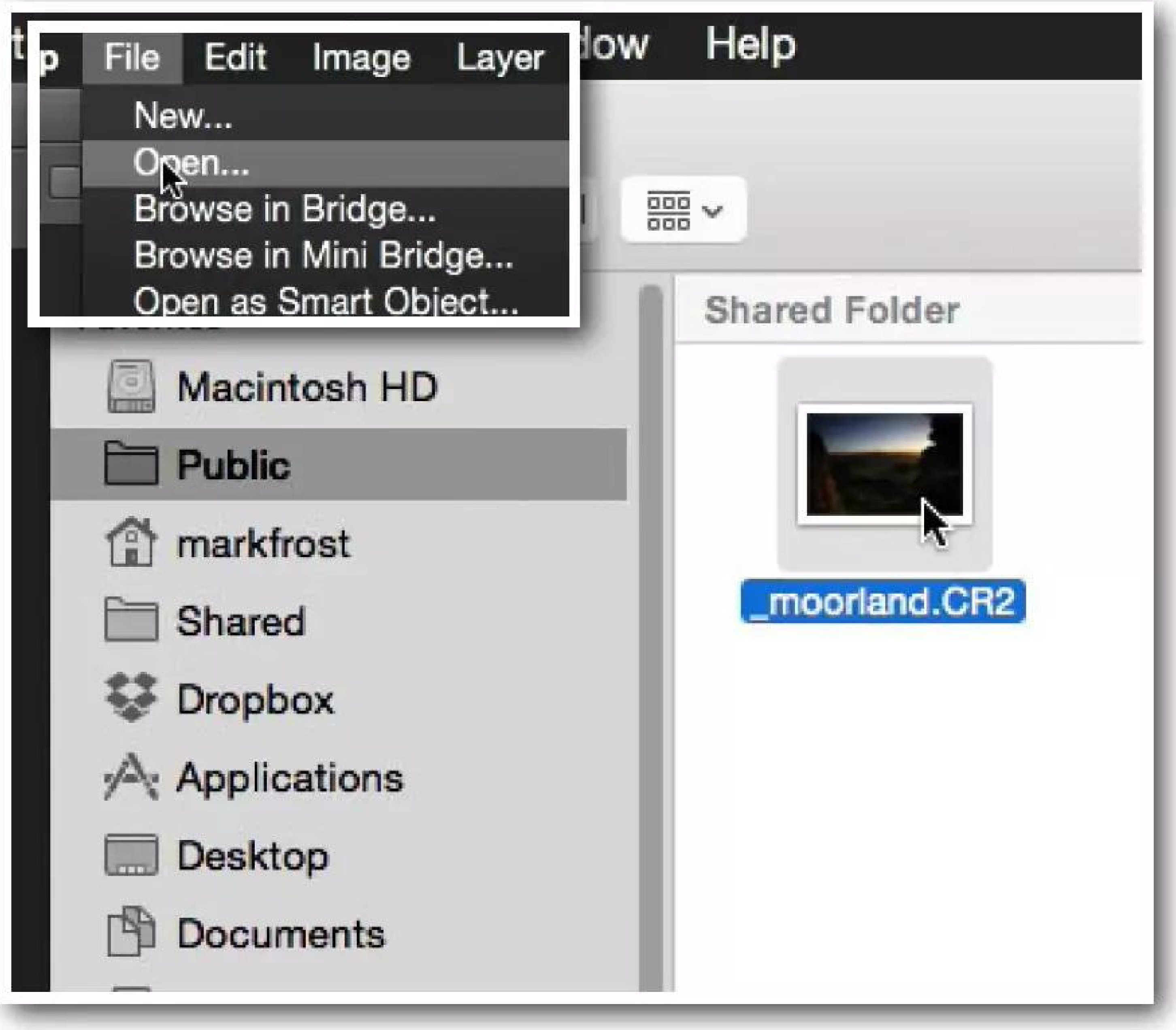
☑ Preview

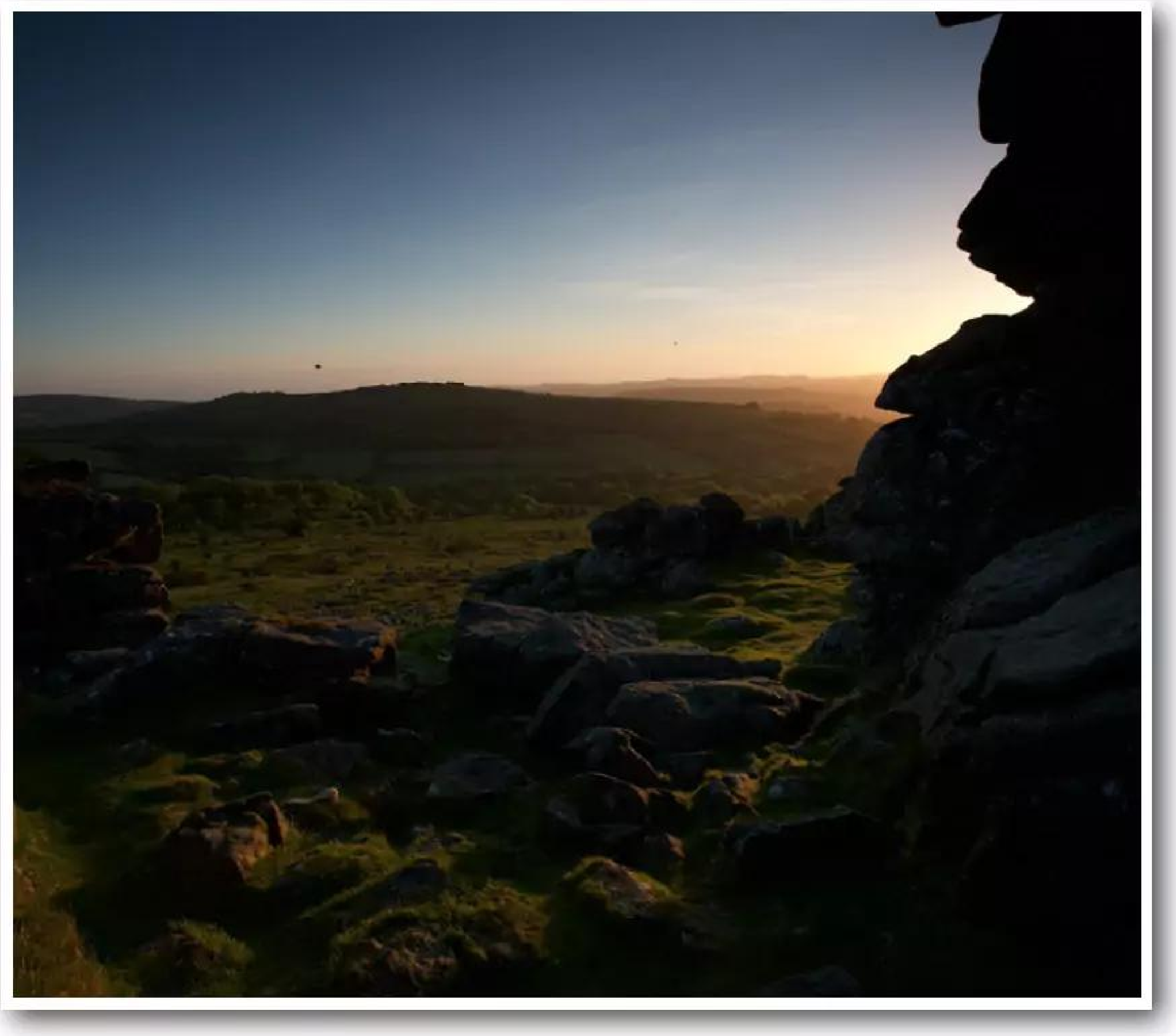
small file
large file
OK
Cancel

20 When you are happy with the final result, you can go to your workflow options and set the Bit Depth as a standard 8 bit image and save it as a TIFF or JPEG. If you wished, you could open the file in Photoshop and give it some final tweaks. Then you are ready to convert your HDR image into black and white.

Pseudo HDR from one Raw file

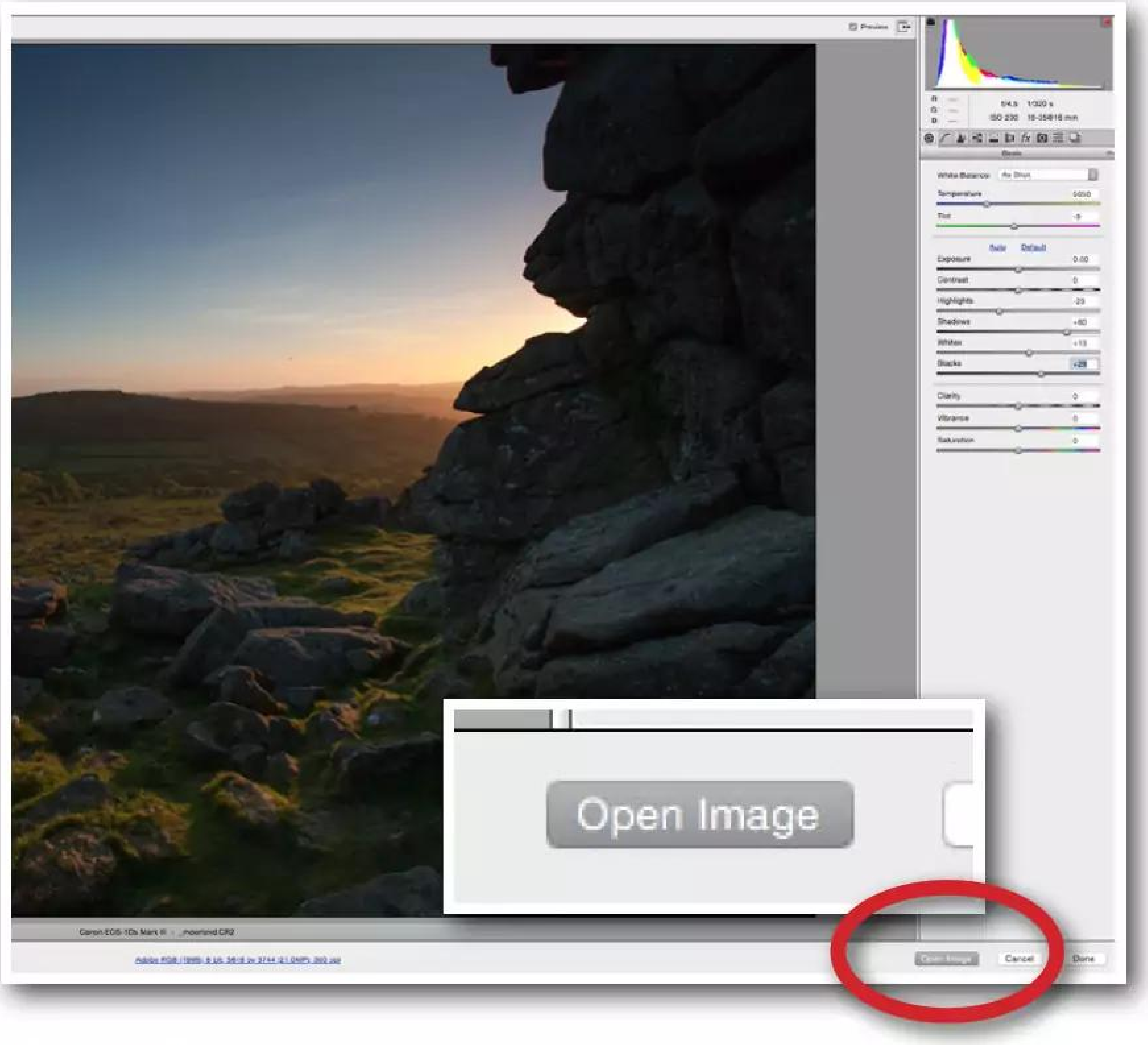
There are a few ways you can achieve the look of an HDR image from one Raw file. This is particularly useful in scenes where there is a lot of movement that would show as ghost images in a multi-file HDR image.

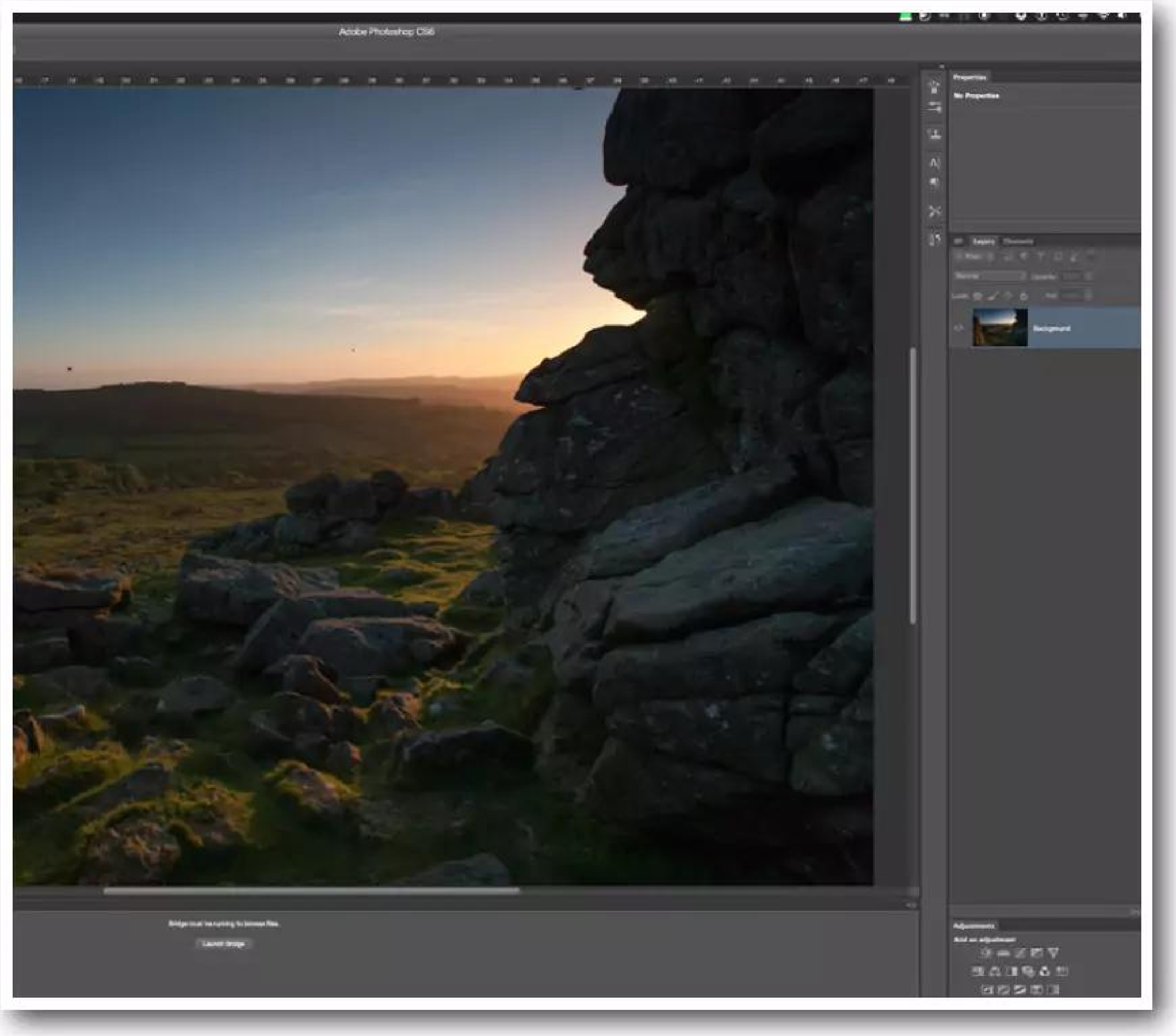

p
File
Edit
Image
Layer
dow
Help
New...
Open...
Browse in Bridge...
Browse in Mini Bridge...
Open as Smart Object...
Macintosh HD
Public
markfrost
Shared
Dropbox
Applications
Desktop
Documents
Shared Folder
_moorland.CR2



01 We will show you the Photoshop method first. Firstly you will need to open your Raw file from Photoshop. Go to File > Open and navigate to where your target Raw is kept.

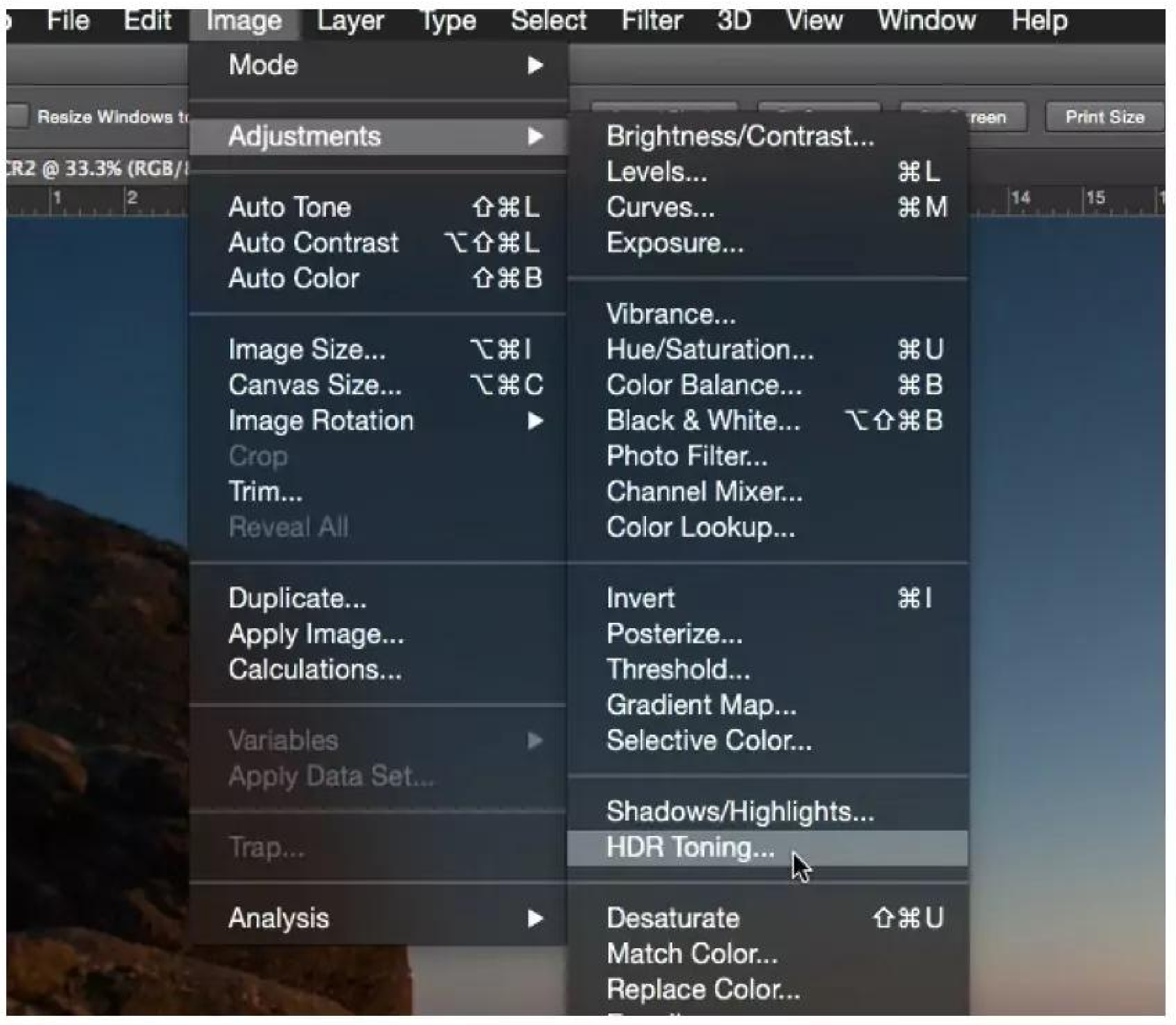
02 Choose the Raw file and double-click it to open it. Our example is a sunrise image that is underexposed. It can be useful to choose images that are underexposed, rather than overexposed, as you can usually recover more detail.



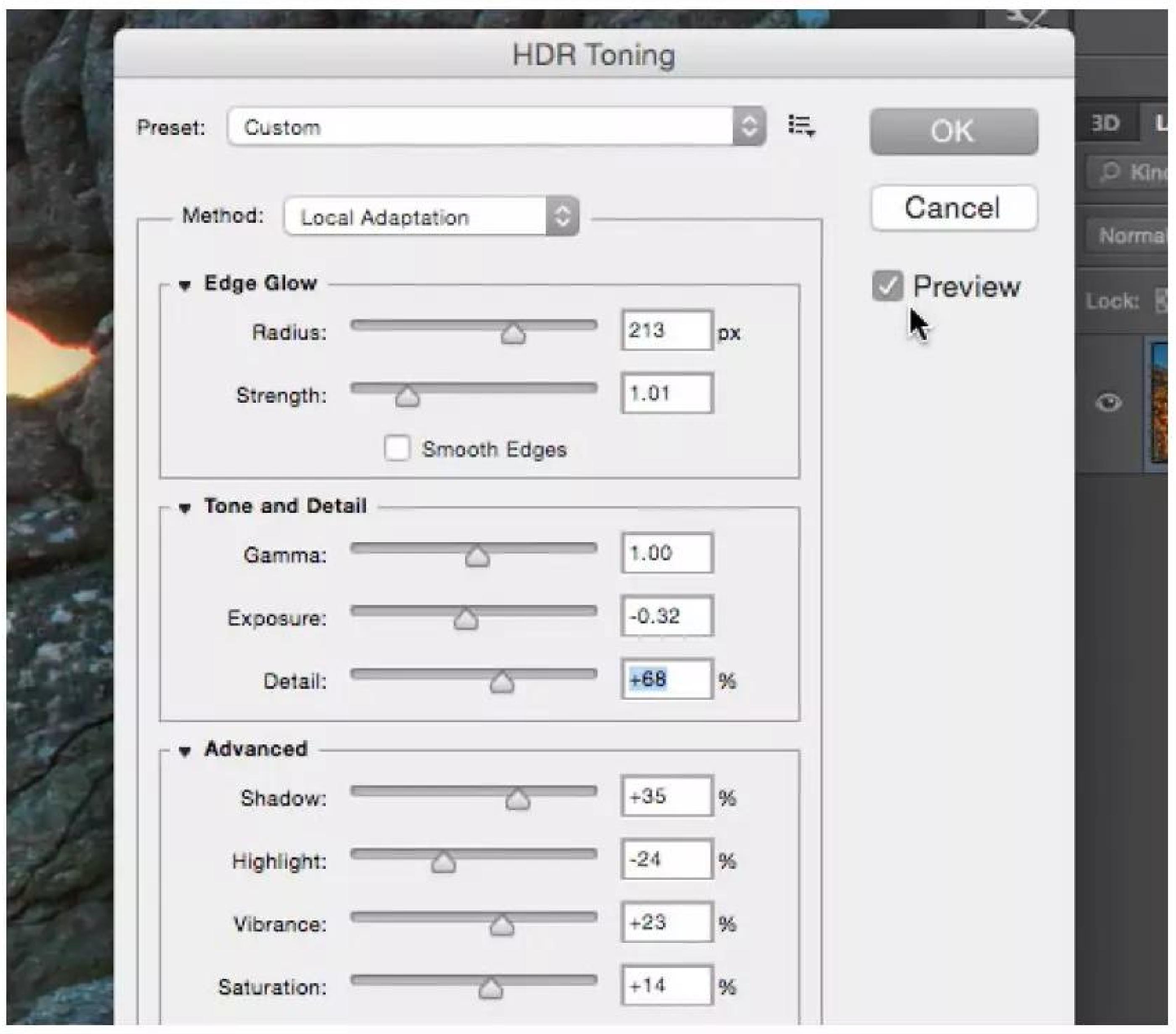


03 Because it is a Raw file, it will open in Adobe Camera Raw ready for processing. Make only basic adjustments, try not to overdo brightness and contrast. Click Open Image when done to open it in Photoshop.

04 We have our base image ready to be given an HDR makeover. It is underexposed and there is not much contrast, but that's ok. The next steps will take care of that.


File
Edit
Image
Layer
Type
Select
Filter
3D
View
Window
Help
Mode
Adjustments
Auto Tone ⇧⌘L
Auto Contrast ⌥⇧⌘L
Auto Color ⇧⌘B
Image Size... ⌥⌘I
Canvas Size... ⌥⌘C
Image Rotation
Crop
Trim...
Reveal All
Duplicate...
Apply Image...
Calculations...
Variables
Apply Data Set...
Trap...
Analysis
Brightness/Contrast...
Levels... ⌘L
Curves... ⌘M
Exposure...
Vibrance...
Hue/Saturation... ⌘U
Color Balance... ⌘B
Black & White... ⌥⇧⌘B
Photo Filter...
Channel Mixer...
Color Lookup...
Invert ⌘I
Posterize...
Threshold...
Gradient Map...
Selective Color...
Shadows/Highlights...
HDR Toning...
Desaturate ⇧⌘U
Match Color...
Replace Color...
Resize Windows to
Print Size

05 In the file menu, go to Image > Adjustments > HDR Toning. This calls up the HDR dialog box and adds a default preset to your image. You can choose from a number of presets for different effects if you wish.


HDR Toning
OK
Cancel
Edge Glow
Tone and Detail
Advanced

Preset: Custom

Method: Local Adaptation

Radius: 213 px

Strength: 1.01

☐ Smooth Edges

Gamma: 1.00

Exposure: -0.32

Detail: +68 %

Shadow: +35 %

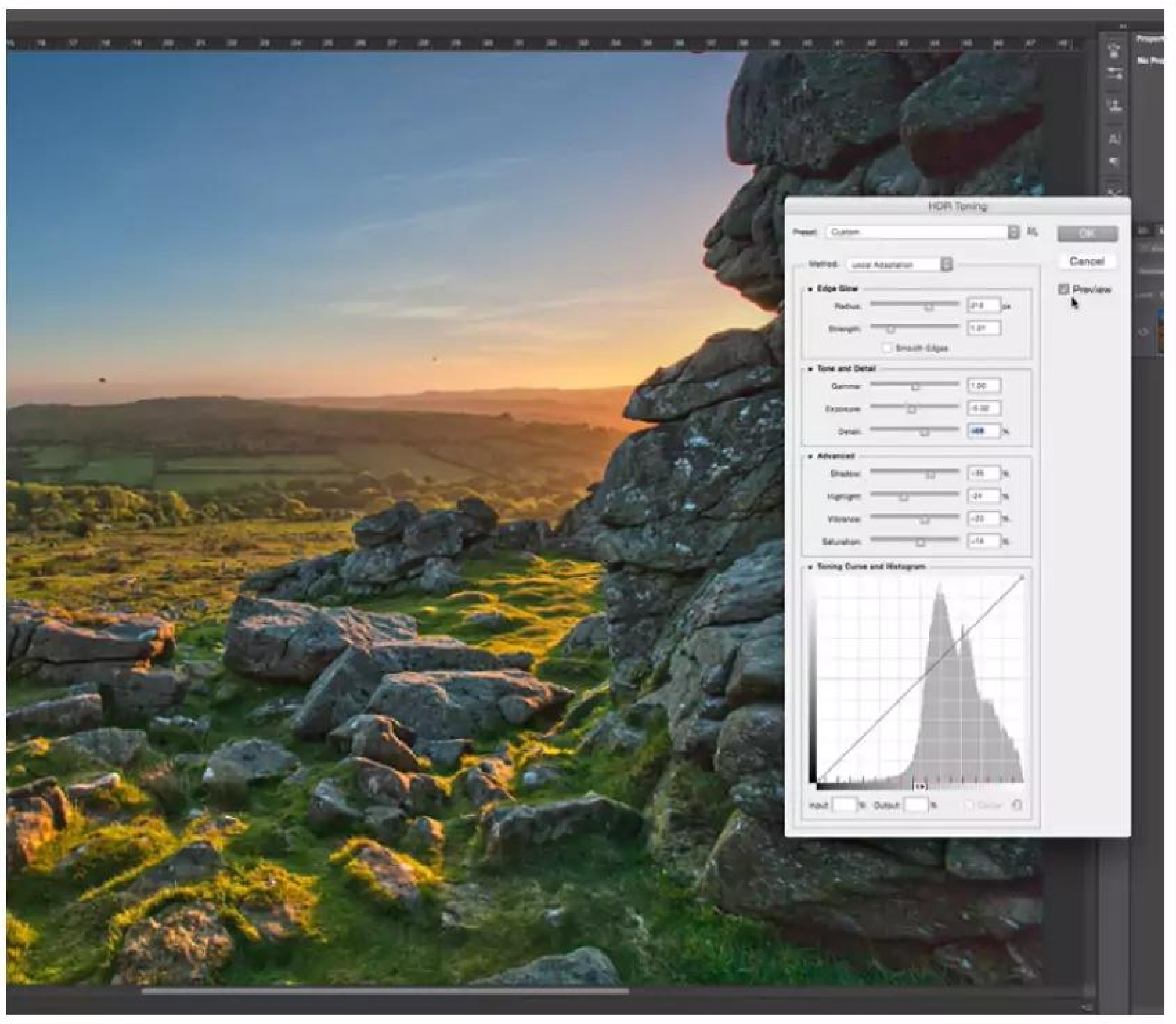
Highlight: -24 %

Vibrance: +23 %

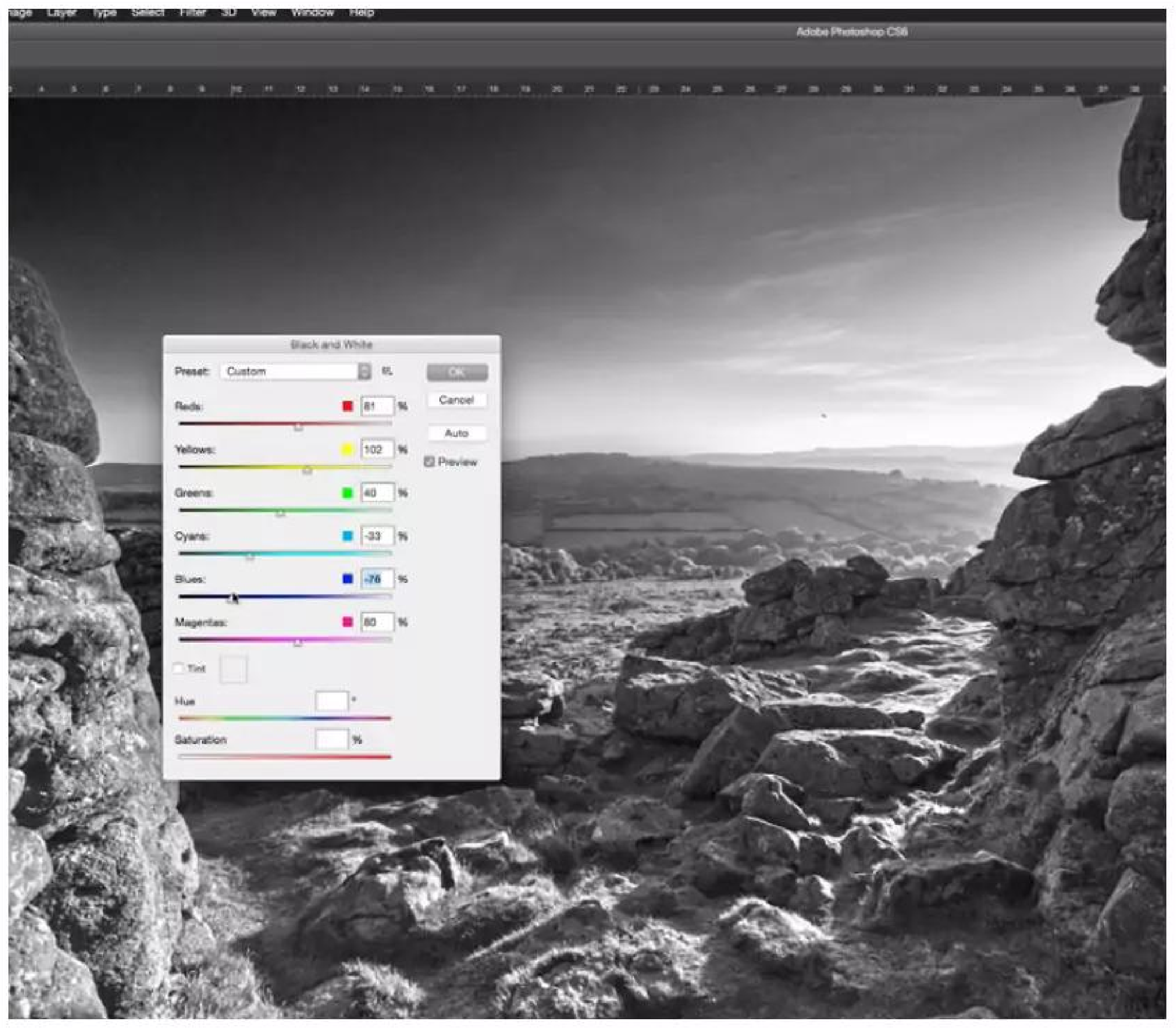
Saturation: +14 %

☑ Preview

06 We have opted for a custom set of adjustments where the Tone and Detail settings and the Shadows and Highlight Advanced values have been tweaked to try and produce an image with good tonal range but is not too extreme-looking.

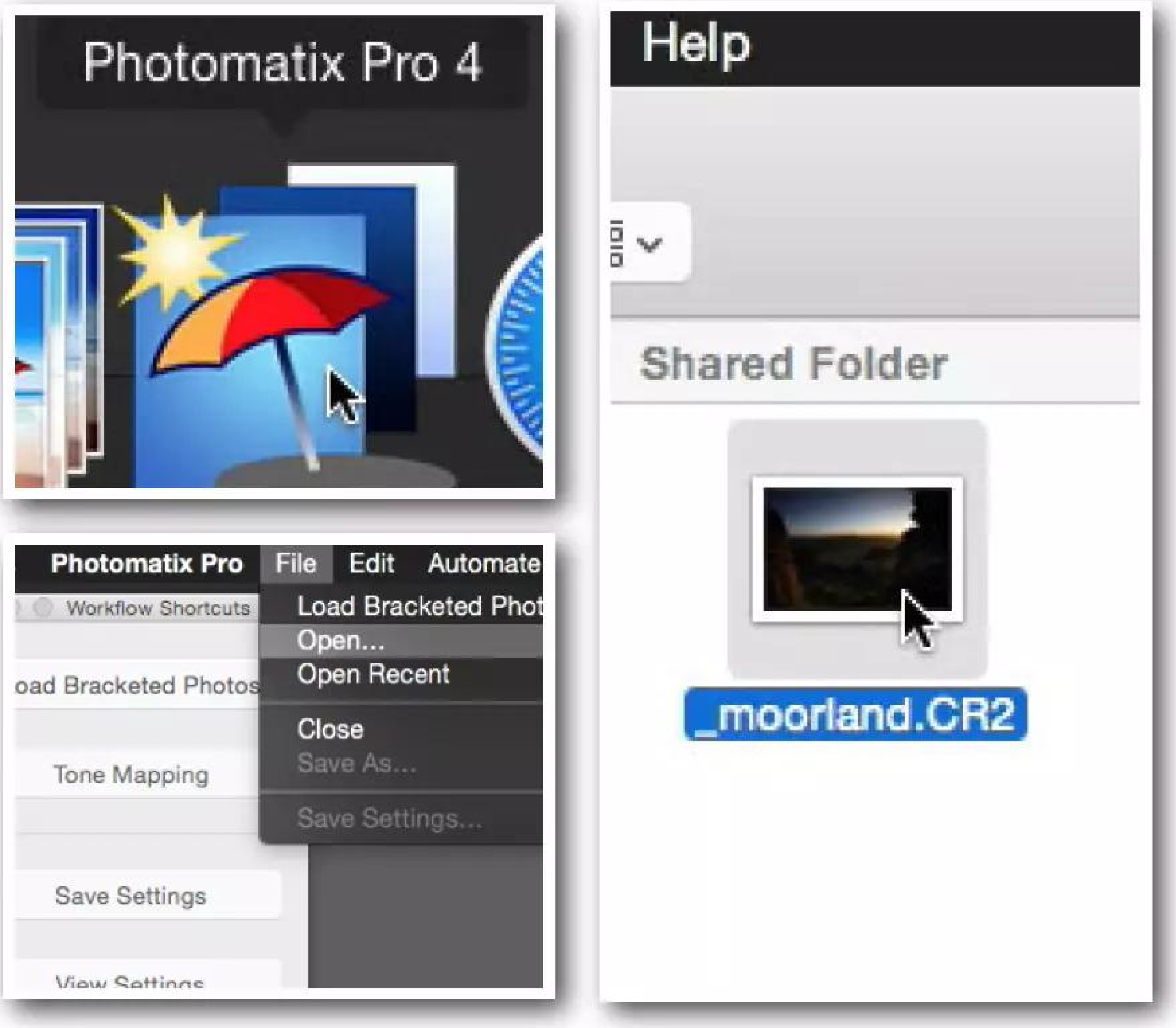


07 You can click OK when done. The image will be processed and converted into a reasonable rendition of a full HDR image. When using this technique you should be aware of possible noise from shadow areas that have been brightened too much.

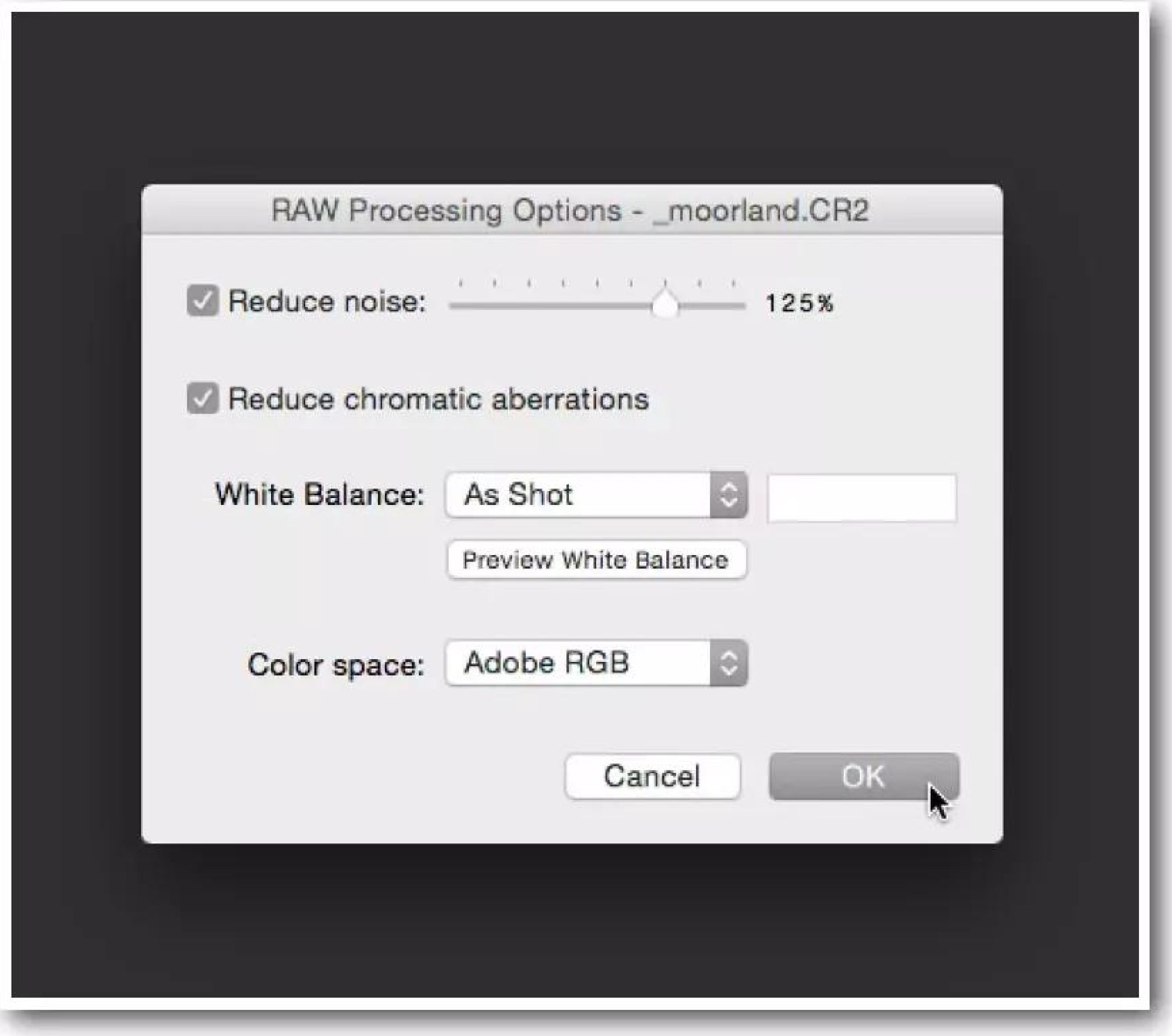


08 You are now able to continue working with the image and convert it to black and white using your preferred method knowing you have an image containing a lot of detail and greater dynamic range than one image taken on its own. You'll have greater scope when choosing how you want to process the image in black and white.

Pseudo HDR from one Raw file


Photomatix Pro 4
Photomatix Pro
File
Edit
Automate
Workflow Shortcuts
Load Bracketed Phot
Open...
Open Recent
Close
Save As...
Save Settings...
oad Bracketed Photos
Tone Mapping
Save Settings
View Settings
Help
Shared Folder
_moorland.CR2

09 If you prefer using third-party applications, one of the most popular HDR conversion applications is Photomatix Pro. From the file menu choose Open and double-click on the single Raw file you want to convert.


RAW Processing Options - _moorland.CR2

☑ Reduce noise: 125%

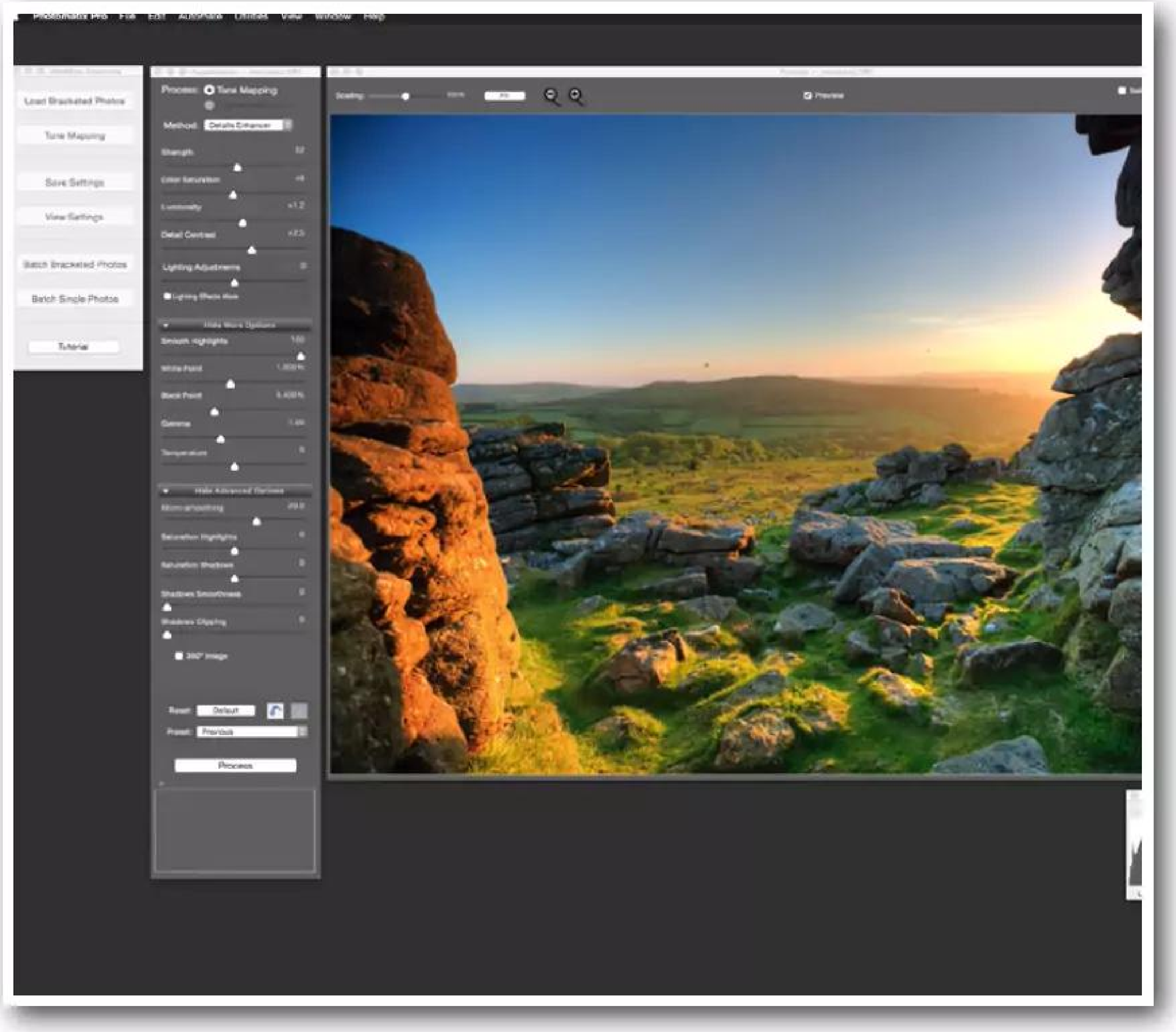
☑ Reduce chromatic aberrations

White Balance: As Shot

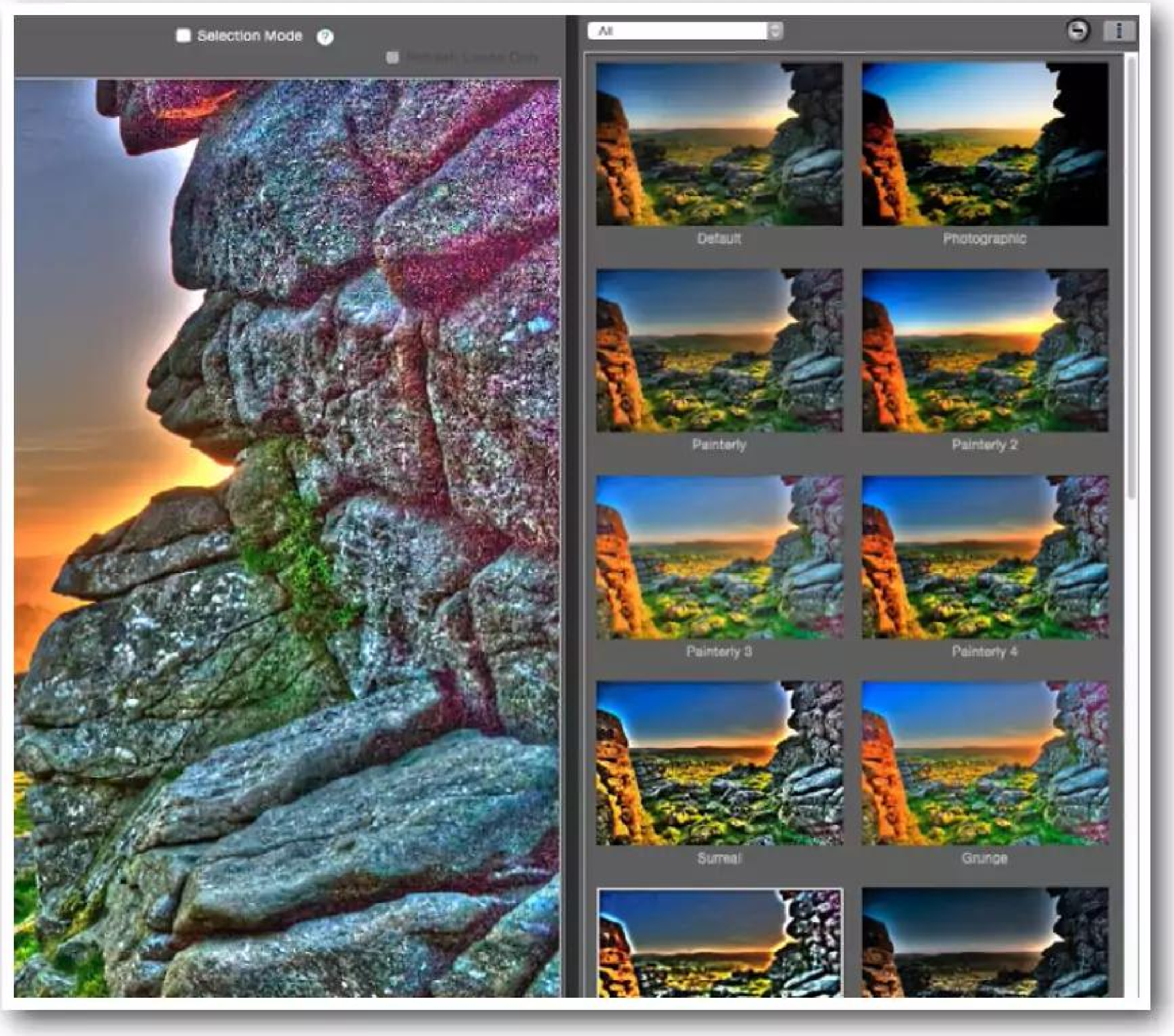
Color space: Adobe RGB

Preview White Balance
Cancel
OK

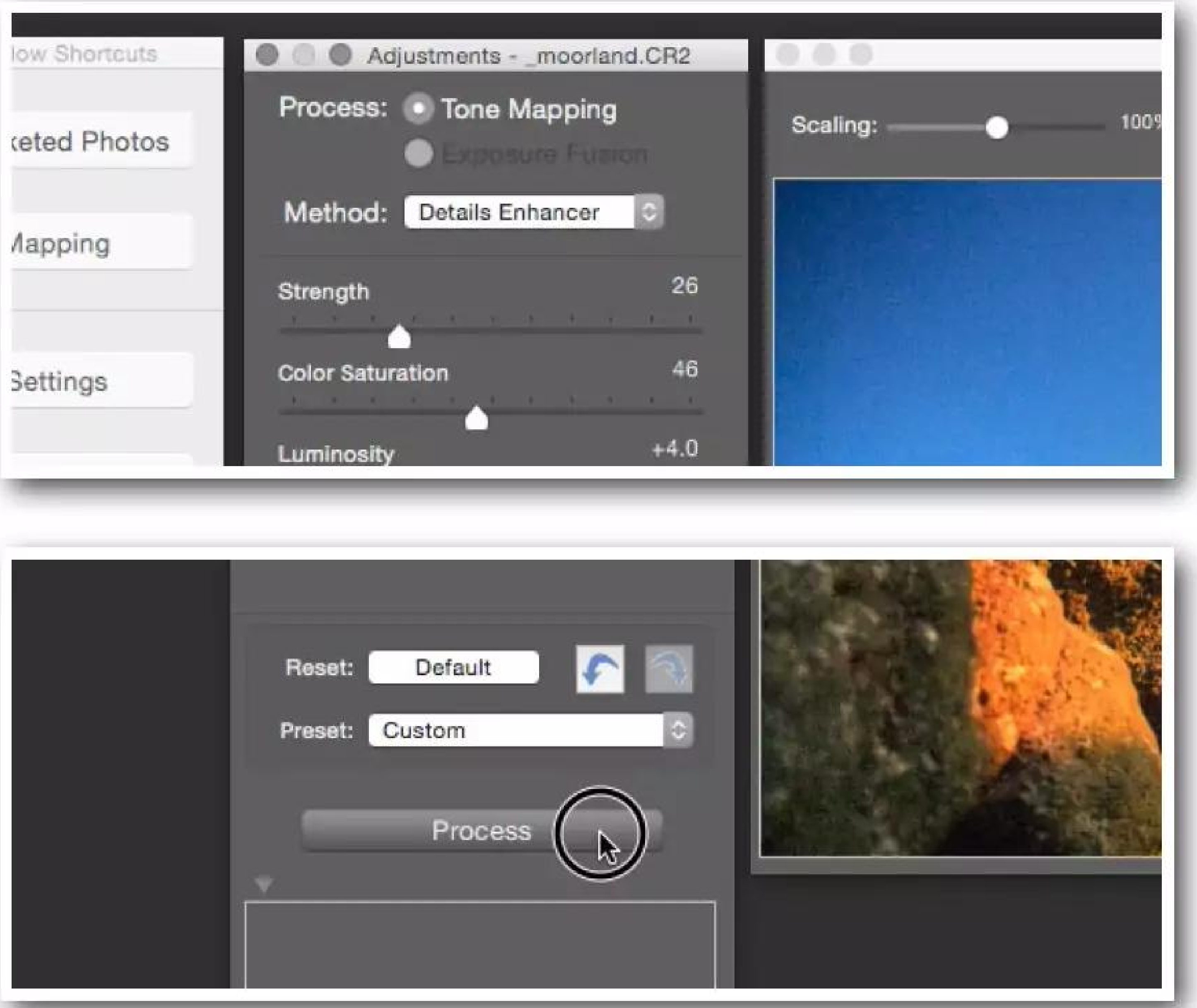
10 You will be presented with some options. The two main ones are Reduce Noise and Reduce Chromatic Aberrations. Because HDR conversions can be 'noisy' it is a good idea to leave these checked.



11 When you click OK, the image will be processed and the main Photomatix adjustments panels will open, along with a preview window showing the default adjustments that have been applied to the image.

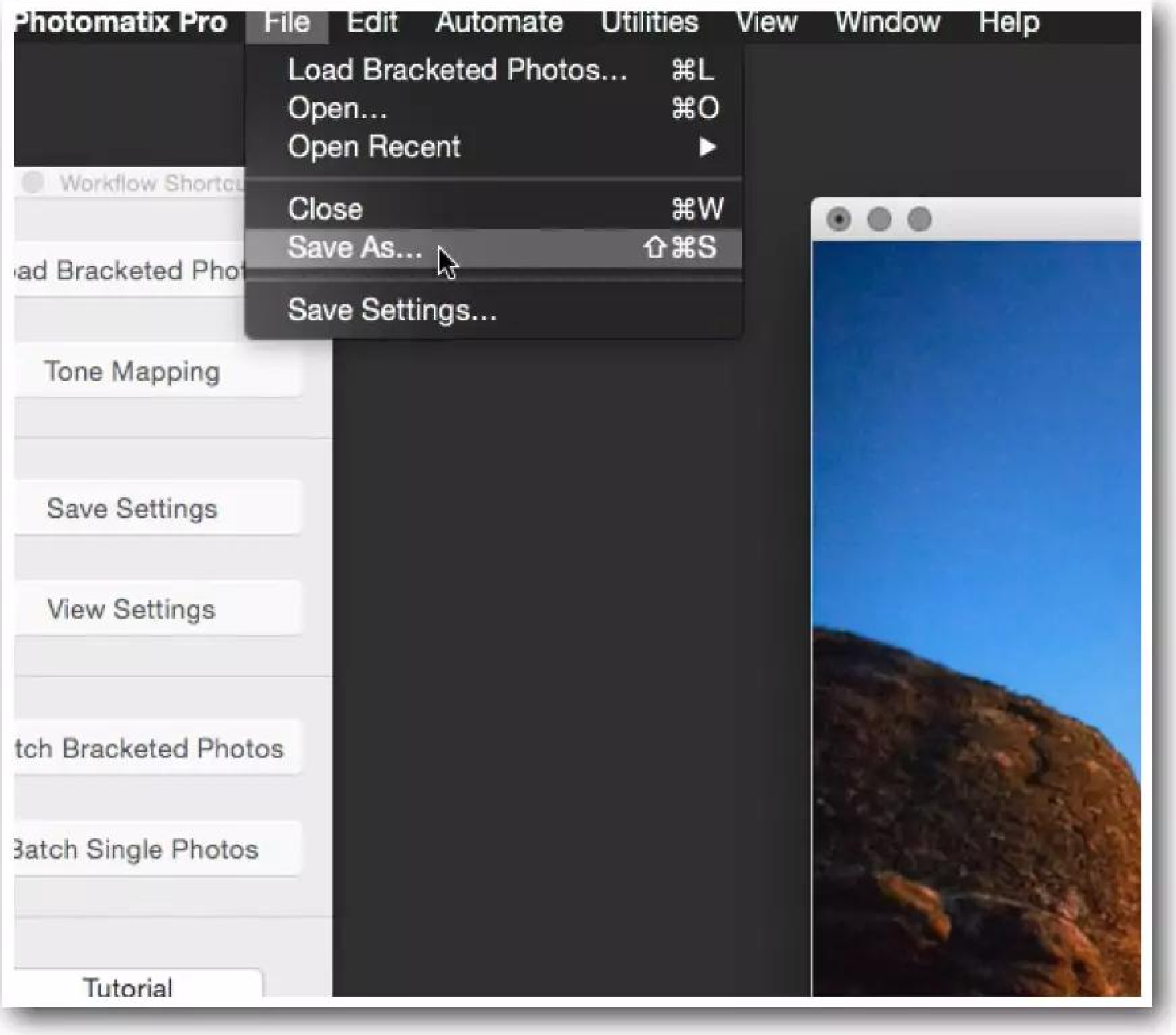

Selection Mode
Default
Photographic
Painterly
Painterly 2
Painterly 3
Painterly 4
Surreal
Grunge

12 You have a number of presets available to choose, ranging from subtle to eye-poppingly extreme. It is recommended to stick with subtle adjustments that bring out detail without looking too gaudy.



low Shortcuts
keted Photos
Mapping
Settings
Adjustments - _moorland.CR2
Scaling: 100%
Reset: Default
Preset: Custom
Process

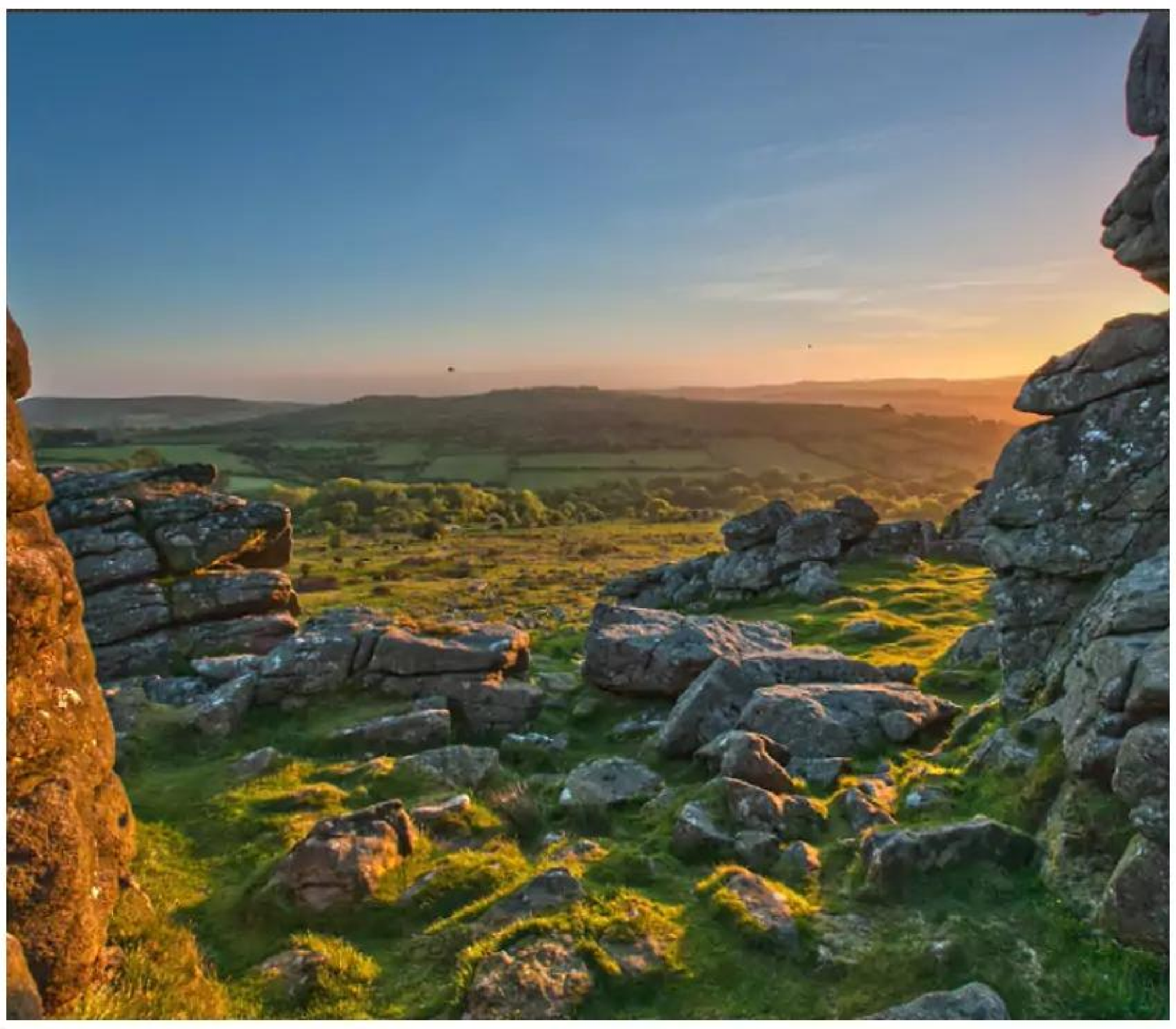
Process: ● Tone Mapping ○ Exposure Fusion
Method: Details Enhancer
Strength 26
Color Saturation 46
Luminosity +4.0

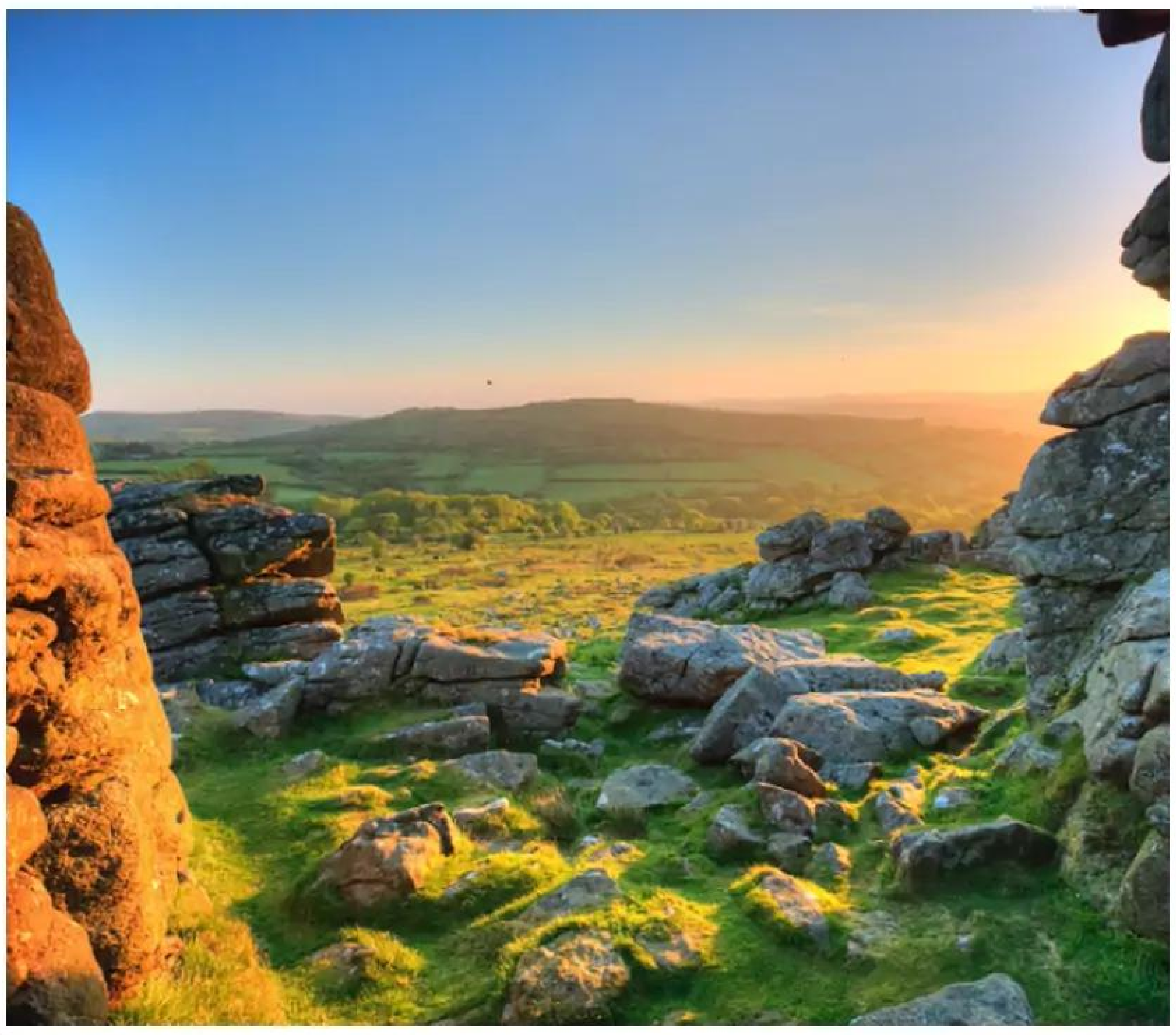


Photomatix Pro File Edit Automate Utilities View Window Help
Load Bracketed Photos... ⌘L
Open... ⌘O
Open Recent ▶
Close ⌘W
Save As... ⇧⌘S
Save Settings...
Workflow Shortcu
ad Bracketed Phot
Tone Mapping
Save Settings
View Settings
tch Bracketed Photos
Batch Single Photos
Tutorial

13 The main adjustments panel on the left is where you alter all the main parameters that govern brightness, contrast, saturation, highlights and shadows, and strength of the enhancements. Click on Process when you are ready.

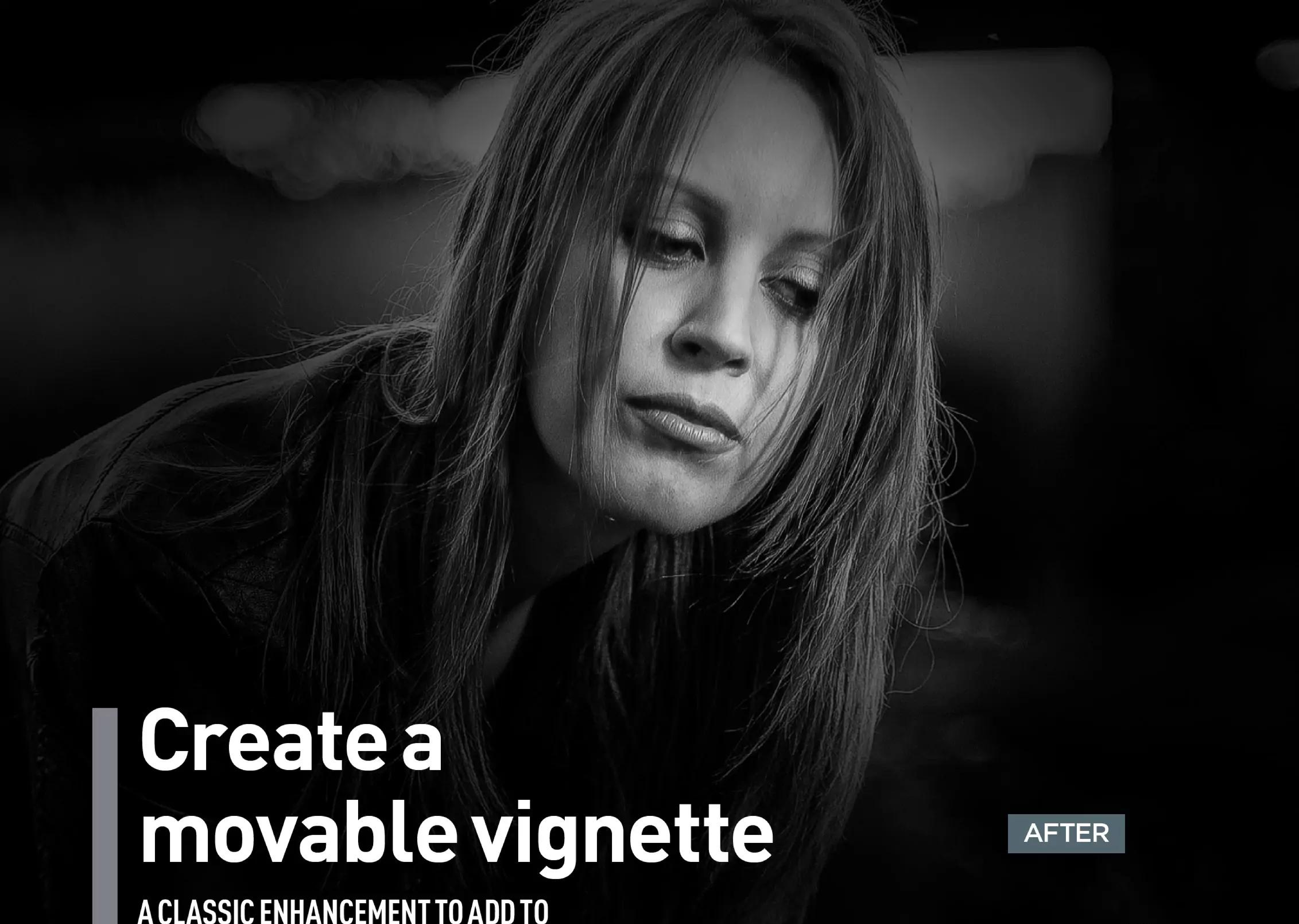
14 The image will be processed according to the values you set in the adjustments panel, and then you can go to File > Save As to save the newly tone-mapped version. It is ready to be converted to black and white.





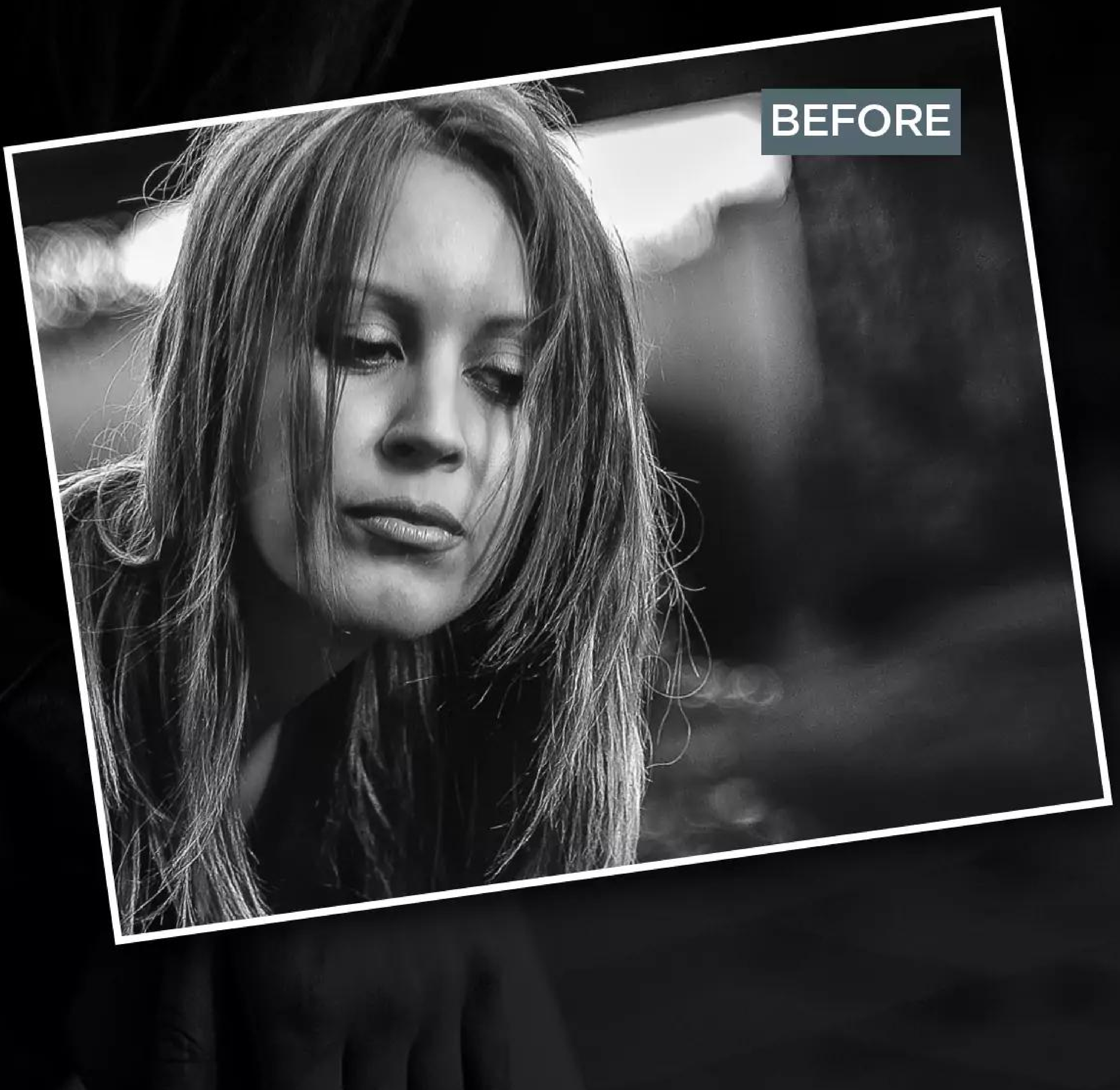
15 So you have two methods at your disposal to create high dynamic range images that you can then convert into black and white. For comparison, we have the three shot bracketed version converted using Photoshop shown above.

16 Here, we have the single Raw file converted to HDR in Photomatix Pro. The single Raw conversion approach is good when you have moving objects in the shot, but does become very noisy when processed. When you convert this to black and white, there is a chance you will exaggerate the noise still further. Where possible, always try to use mutliple exposures for best image quality.



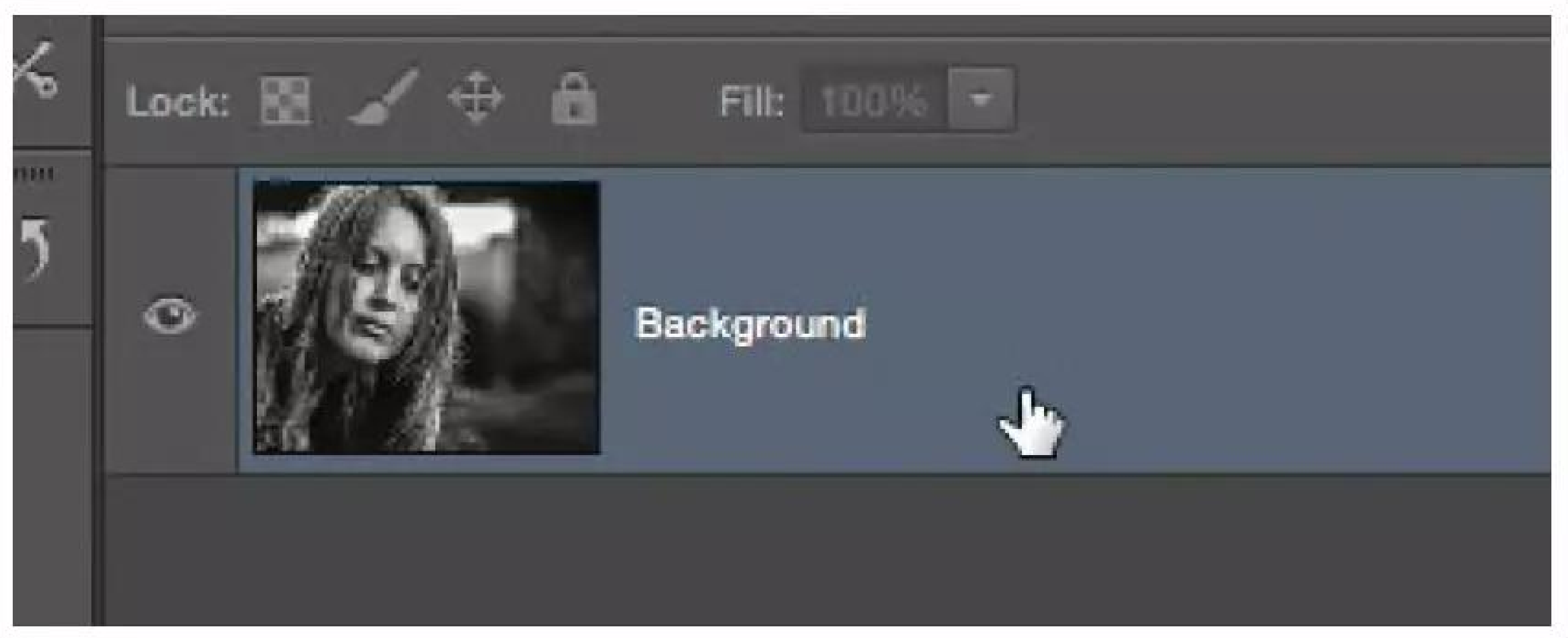
Create a movable vignette

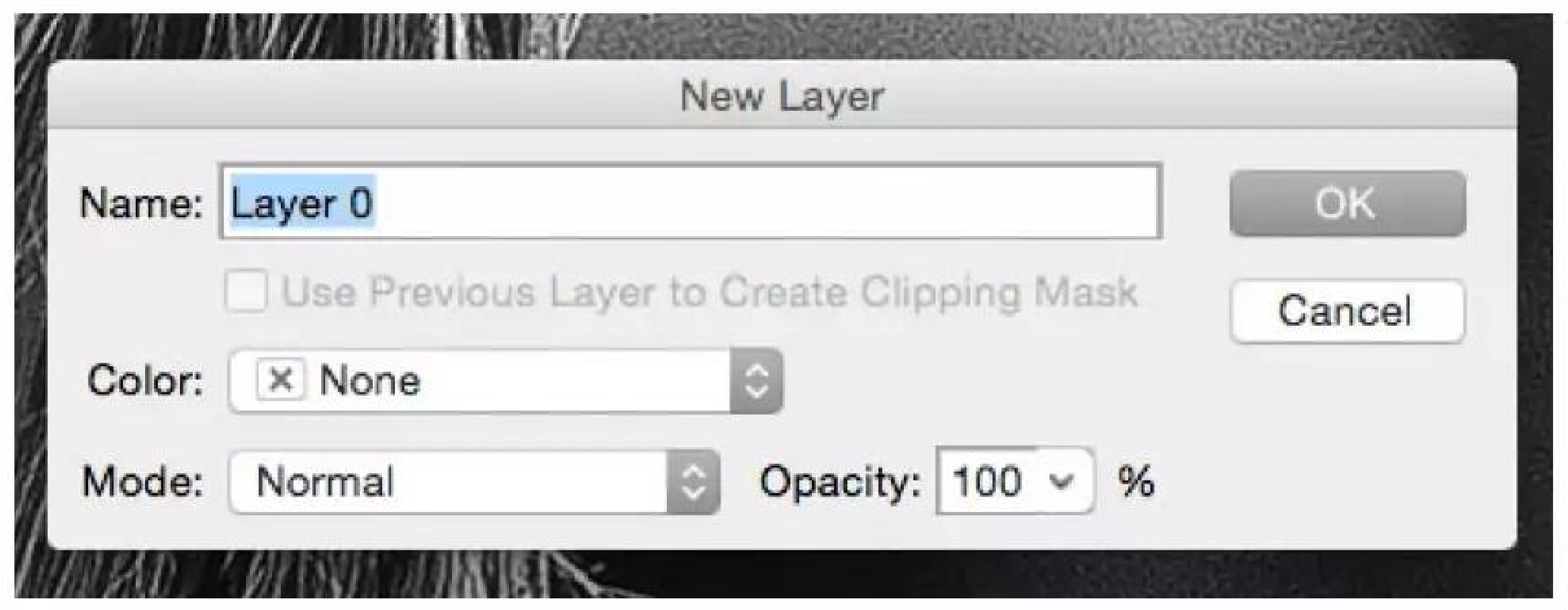
A CLASSIC ENHANCEMENT TO ADD TO YOUR BLACK AND WHITE IMAGES



The term vignette comes from the French for 'little vine'. It is a reference to the decorative designs in books used to separate chapters or adorn the borders of pages. These days, the term is associated with the graphic process that creates a loss of clarity, or change in brightness of the corners and sides of an image. In photographic terms, vignetting is an unwanted change in edge brightness created by certain lenses; but to create drama in a finished image, or to focus our attention to a specific part of an image, it is a positive boon.

In black and white images particularly, the vignette is a useful graphic device to add focus and drama. There are quite a few ways to add a vignette to an image in Photoshop. We are going to concentrate on a version that actually lets you move the vignette around and change its edge softness and opacity.


Lock:
Fill: 100%
Background


New Layer

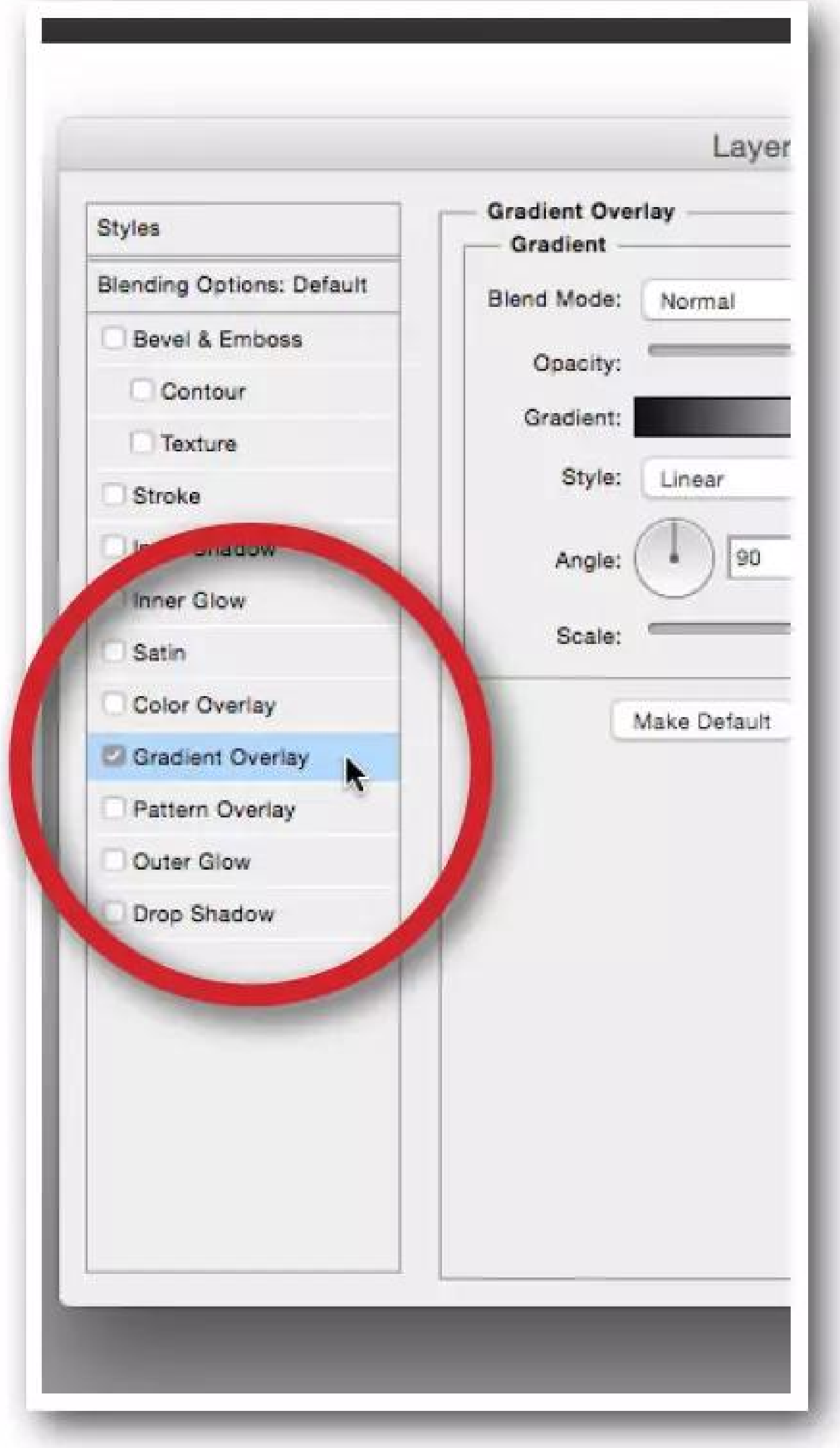
Name: Layer 0

☐ Use Previous Layer to Create Clipping Mask

Color: None

Mode: Normal

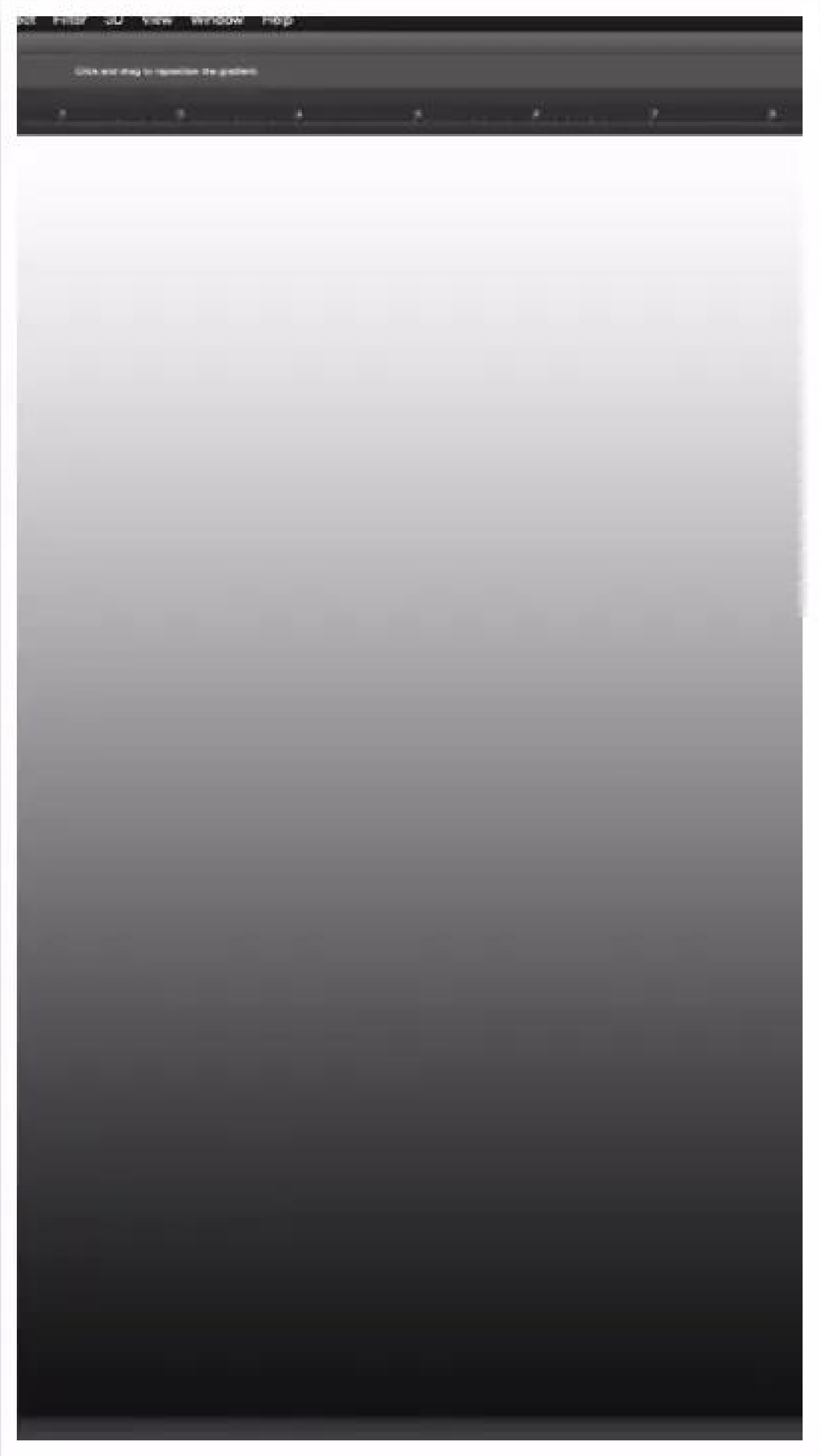
Opacity: 100 %


Layer
Styles
Blending Options: Default
Bevel & Emboss
Contour
Texture
Stroke
Inner Shadow
Inner Glow
Satin
Color Overlay
Gradient Overlay
Pattern Overlay
Outer Glow
Drop Shadow
Gradient Overlay
Gradient
Make Default

Blend Mode: Normal

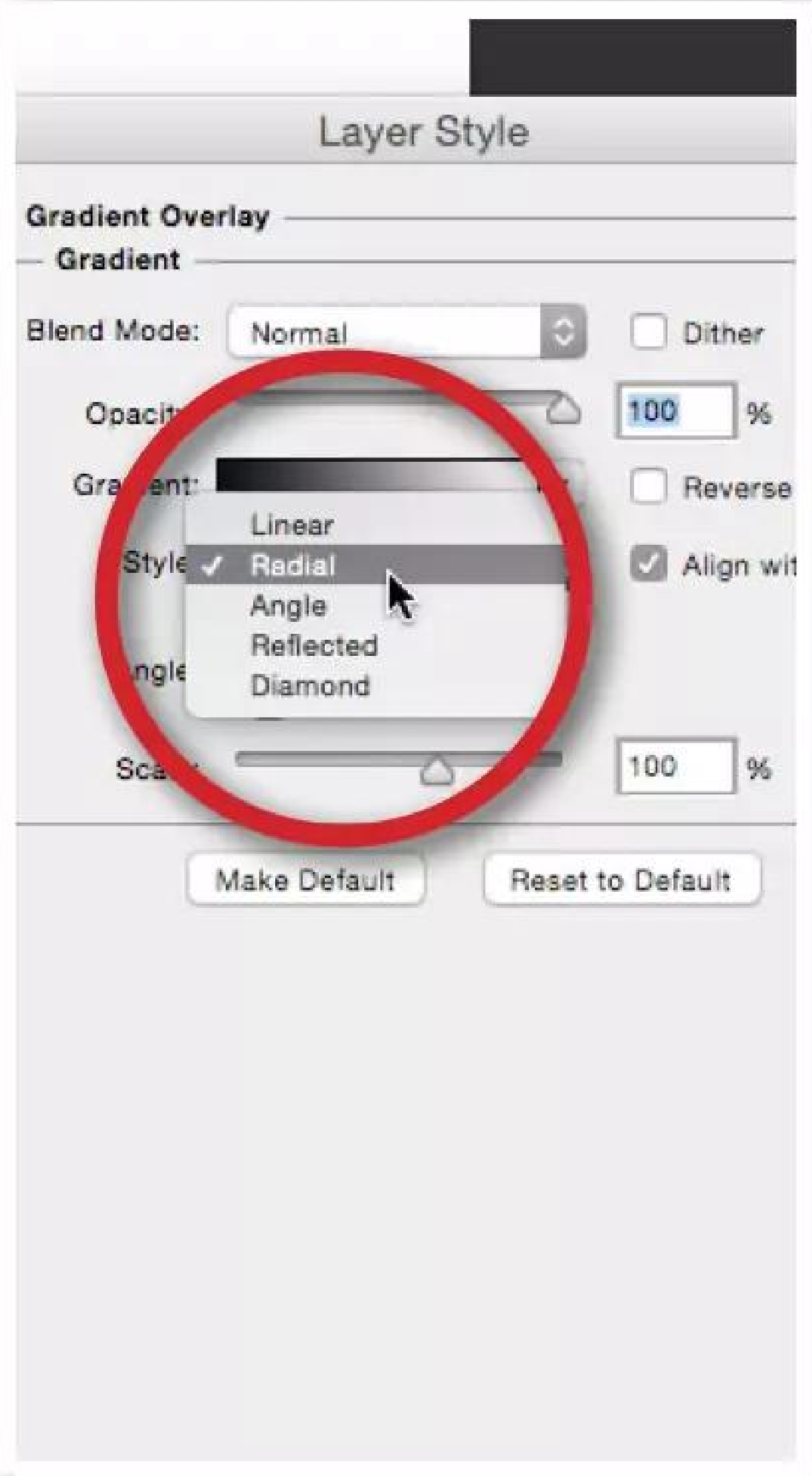
Style: Linear

Angle: 90



01 The first step is to load up the image to which you are going to add your vignette. Double-click its layer thumbnail to turn it from flattened image to an active layer. You'll be prompted to name the layer. We have gone with the default.

02 If you double-click the layer again, it will call up the Layer Style dialog for the layer. In the Styles panel, click on Gradient Overlay. A default gradient from black to white will be applied, obscuring your image for the moment.


Layer Style
Gradient Overlay
Gradient
Linear
Radial
Angle
Reflected
Diamond
Make Default
Reset to Default

Blend Mode: Normal

Opacity: 100 %

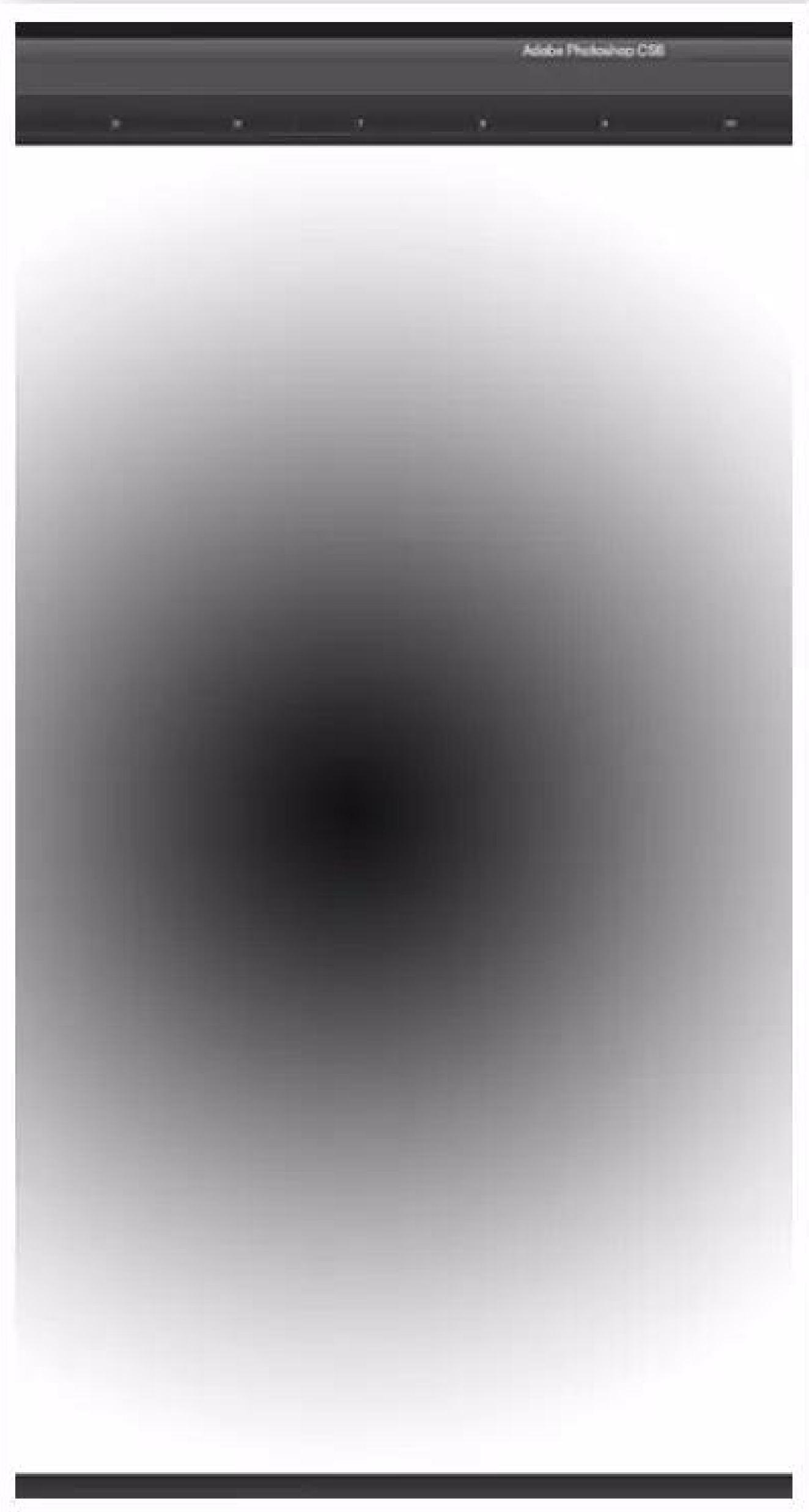
☐ Dither

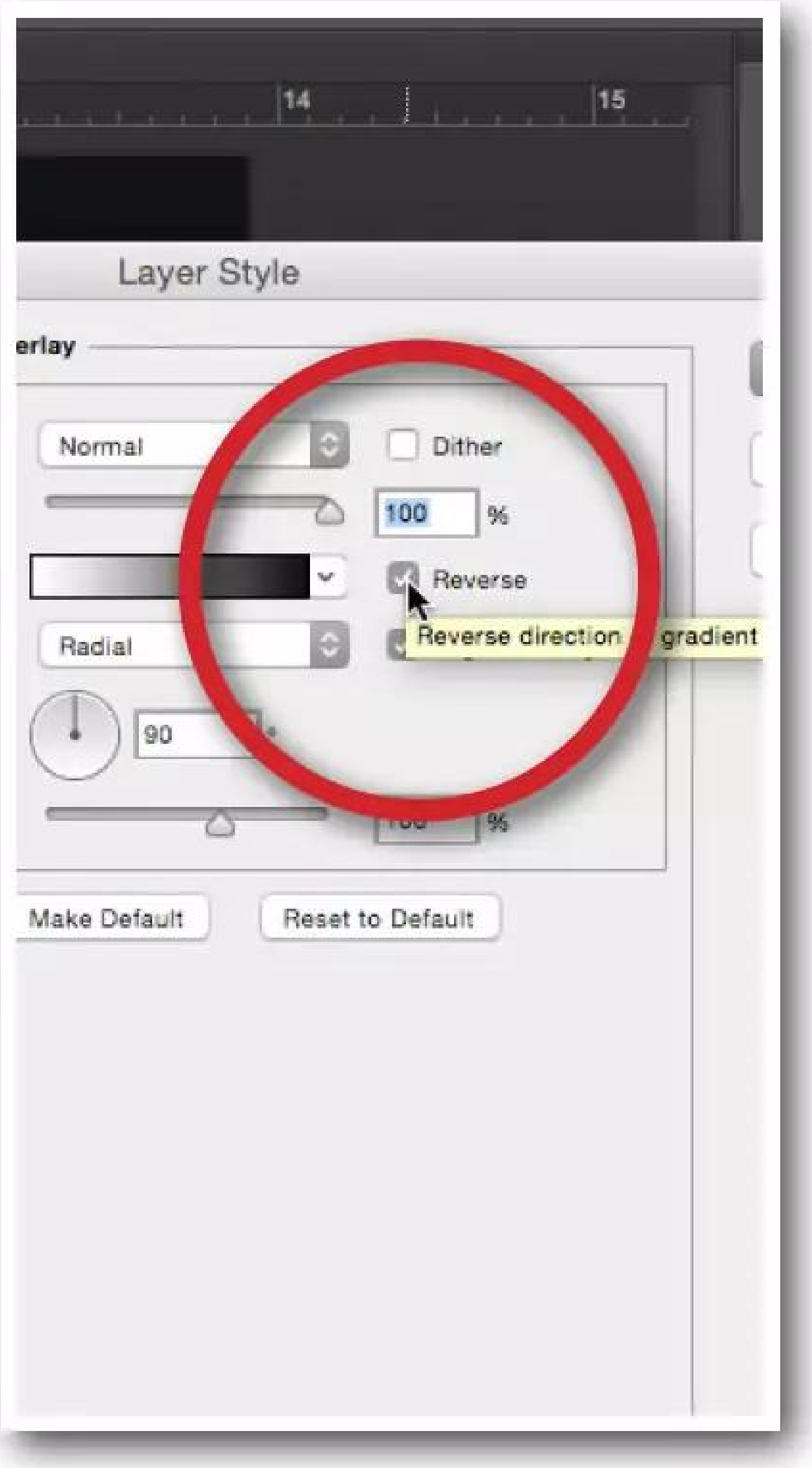
☐ Reverse

☑ Align with Layer

Style: Radial

Scale: 100 %




Layer Style
Reverse direction of gradient
Make Default
Reset to Default

Normal

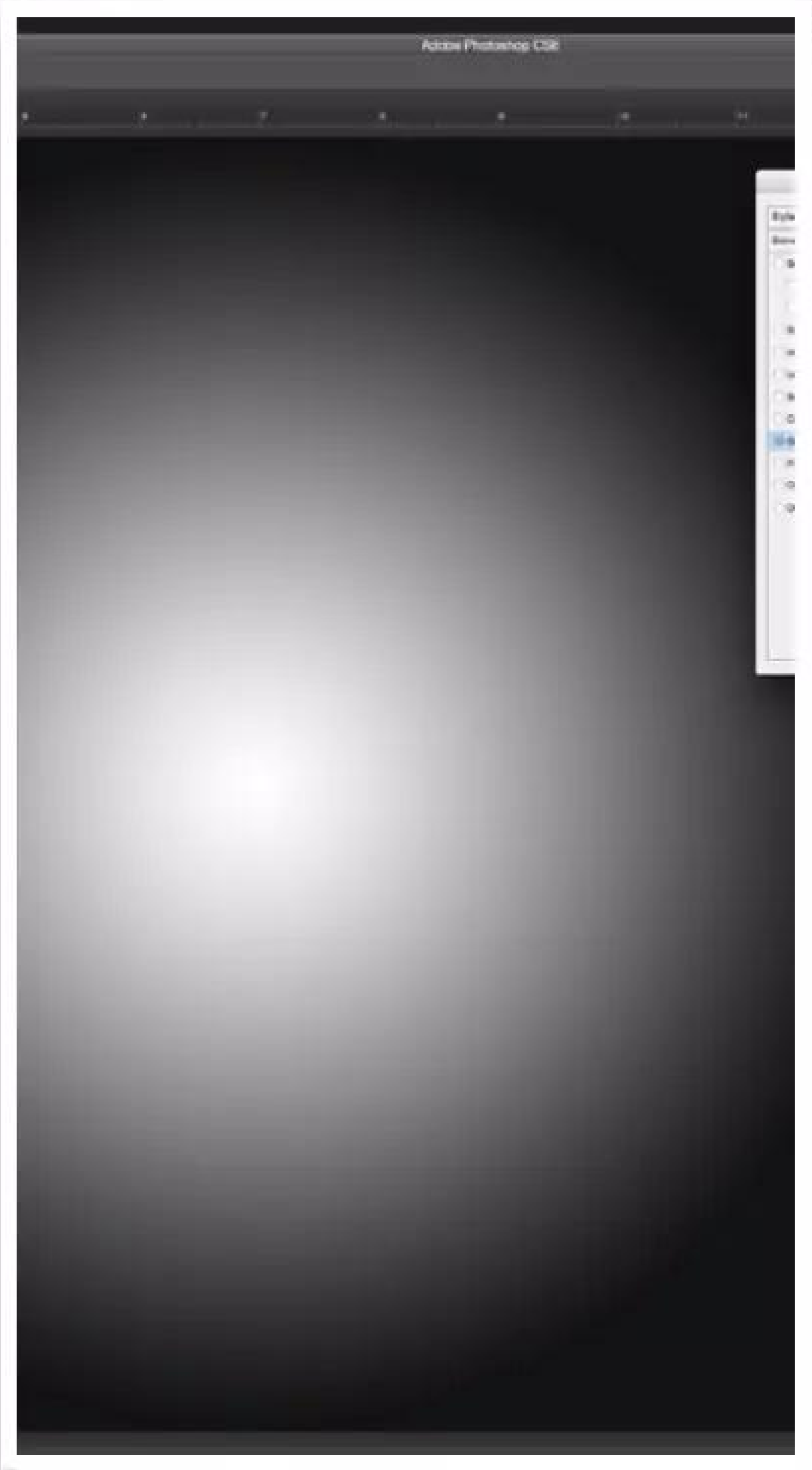
☐ Dither

100 %

☑ Reverse

Radial

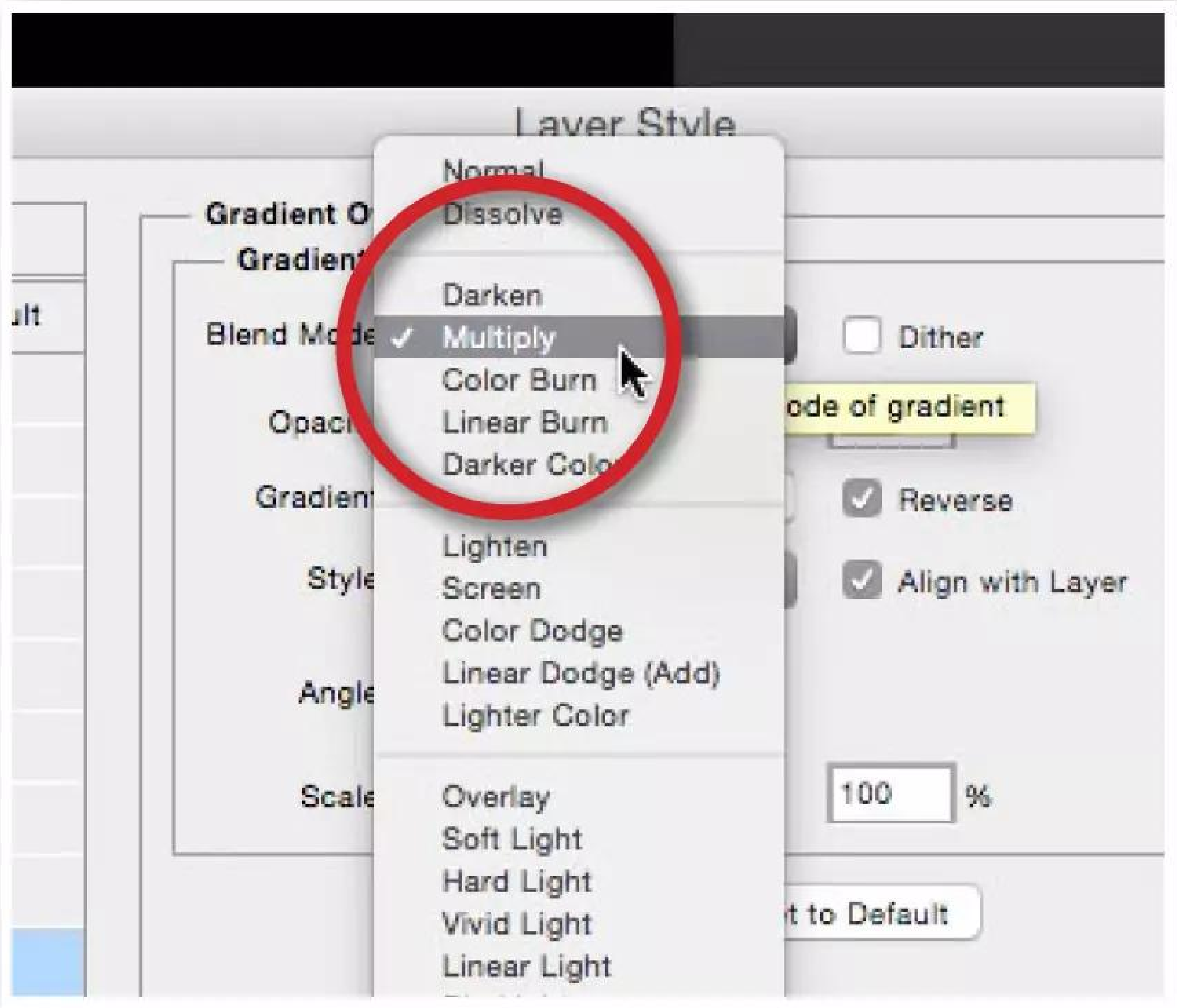
90



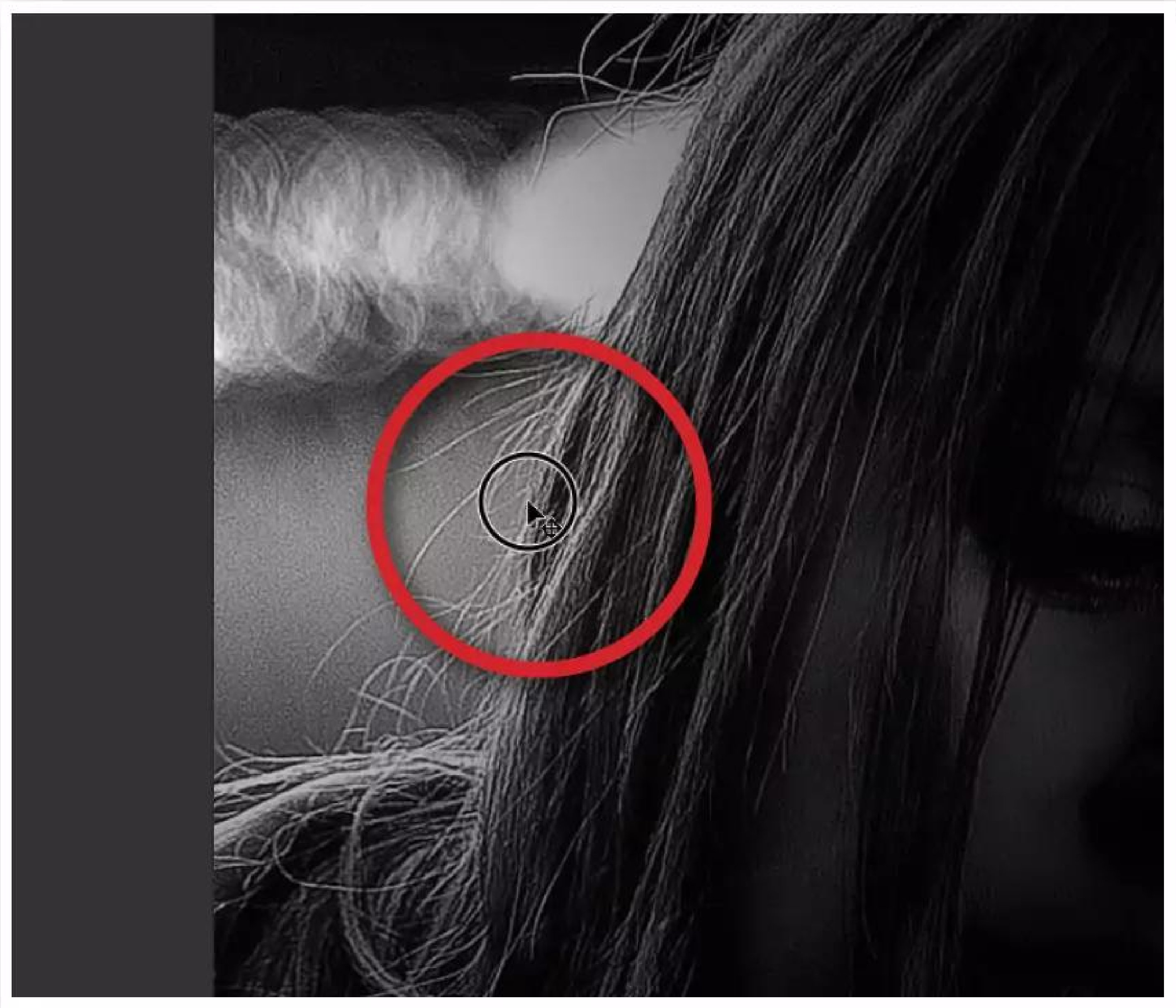
03 In the Gradient Overlay panel, click on Style to set the type of gradient. There are several options available, and you need to choose Radial in order to make a circular overlay.

04 Next, the gradient needs to be set so that the centre spot is white, and the outer edge is black. If it is currently black in the centre, fading to white on the edges, click on the Reverse button to swap the direction.

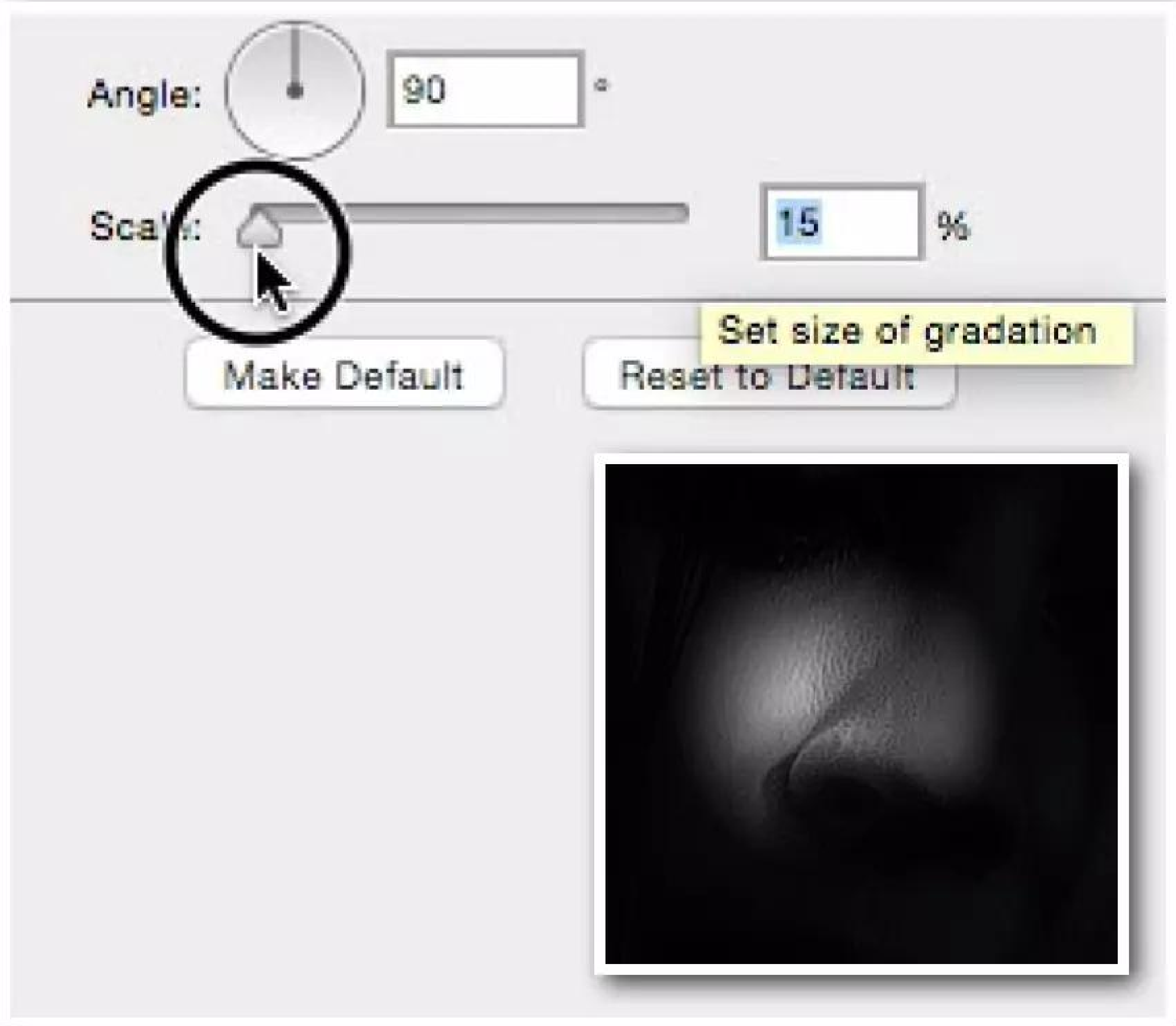
Create a movable vignette


Layer Style
Gradient O
Gradient
Blend Mode
Opaci
Gradient
Style
Angle
Scale
Normal
Dissolve
Darken
✓ Multiply
Color Burn
Linear Burn
Darker Colo
Lighten
Screen
Color Dodge
Linear Dodge (Add)
Lighter Color
Overlay
Soft Light
Hard Light
Vivid Light
Linear Light
☐ Dither
ode of gradient
☑ Reverse
☑ Align with Layer
100 %
t to Default

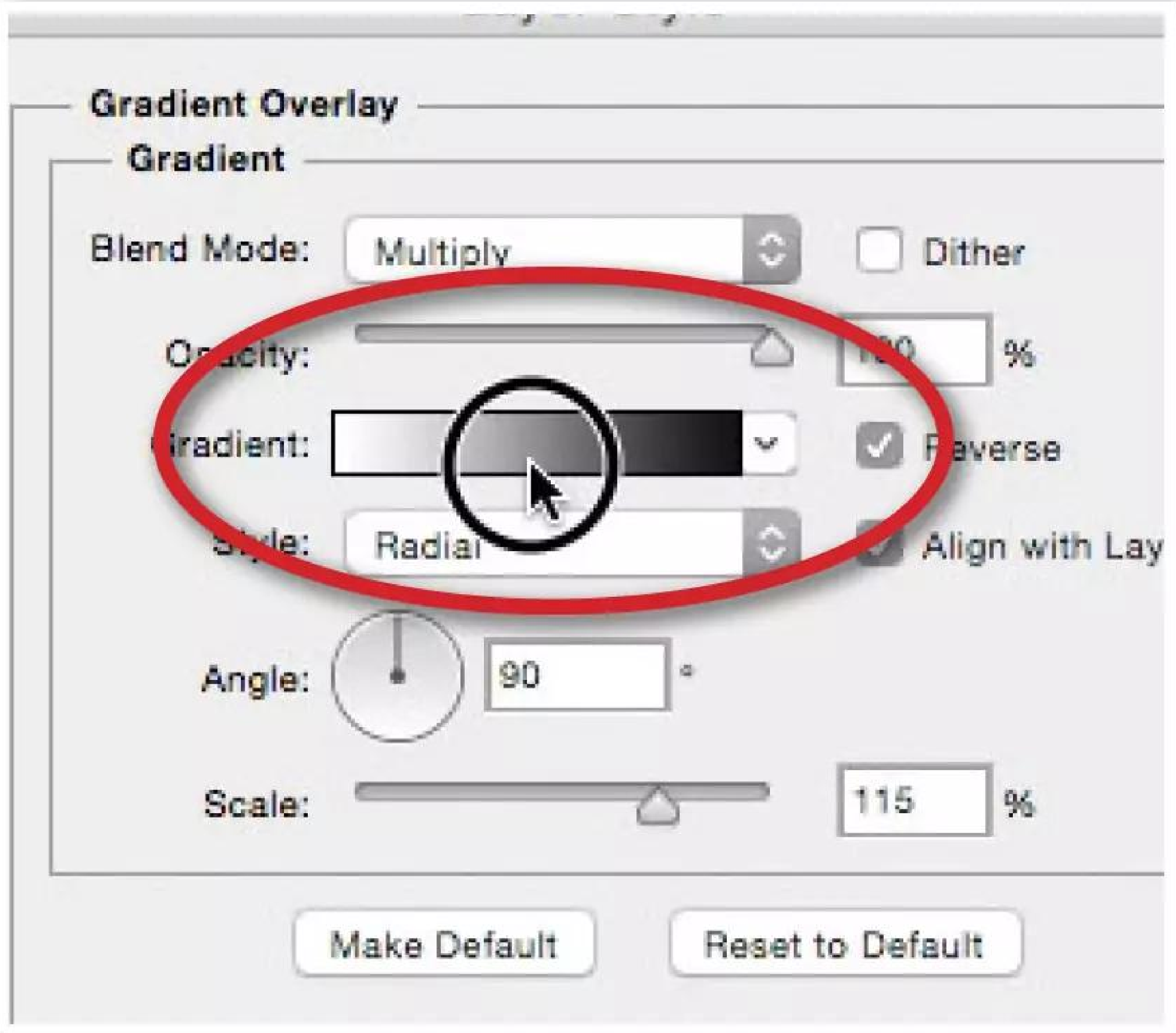
05 Now, under Blend Mode, select Multiply. This will make the white areas of the gradient disappear, keeping the darker areas. Your image will now become visible again, but now it has dark edges.



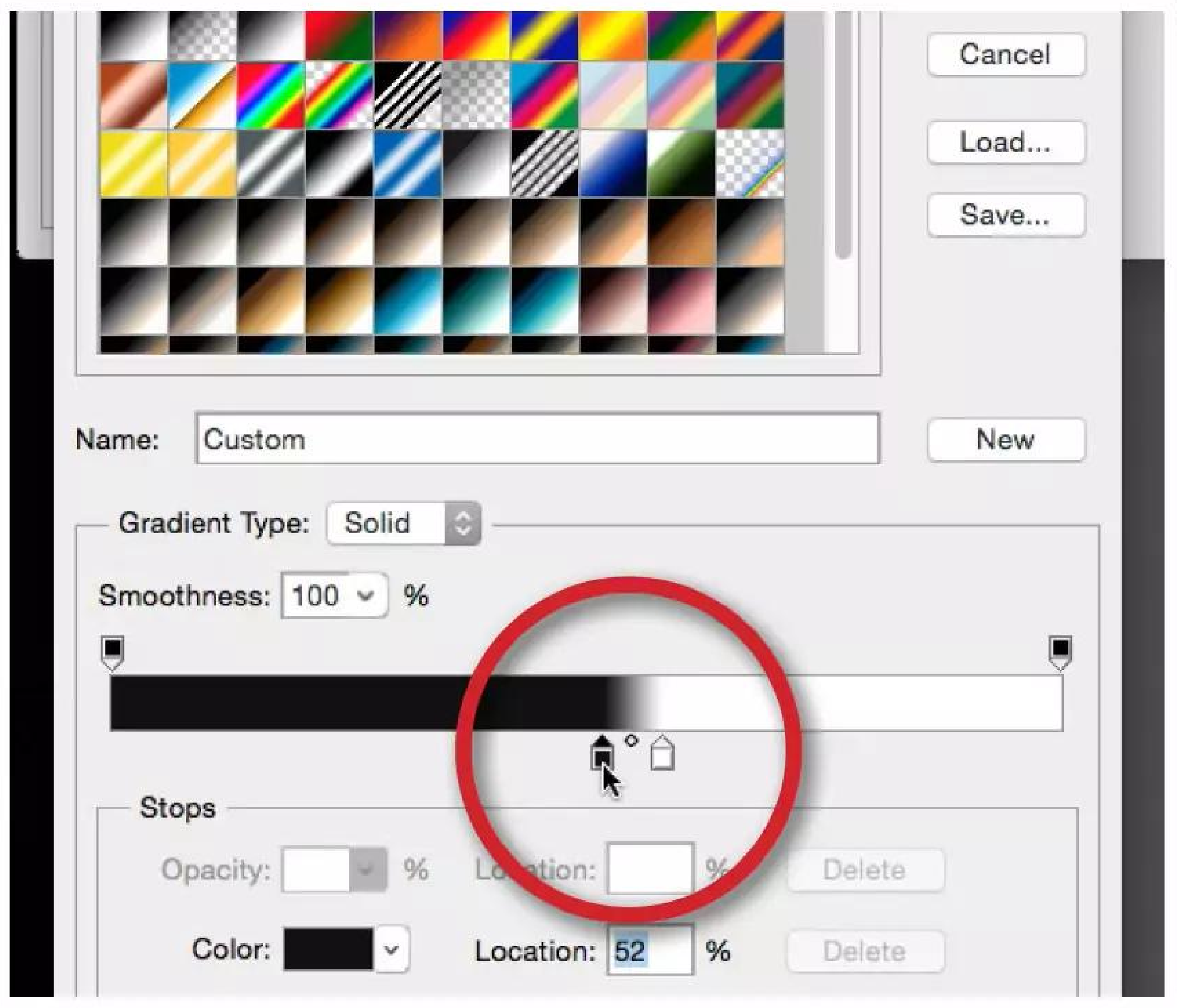
06 At this point, if you left-click and drag your mouse over your image, you will see that you can move the centre of the gradient around and place it anywhere within the image.


Angle:
90 °
Scale:
15 %
Set size of gradation
Make Default
Reset to Default

07 If you move the Scale slider back and forth, you can make the vignette smaller and larger to suit your needs. You can expand it so that it has less impact on the image, or reduce it to a very small point.


Gradient Overlay
Gradient
Blend Mode:
Multiply
☐ Dither
Opacity:
%
Gradient:
☑ Reverse
Style:
Radial
☑ Align with Lay
Angle:
90 °
Scale:
115 %
Make Default
Reset to Default

08 You can also control the size and edge softness of the vignette by clicking on the Gradient tab in the Layer Style dialog.


Cancel
Load...
Save...
New
Stops
Delete
Delete

Name: Custom

Gradient Type: Solid

Smoothness: 100 %

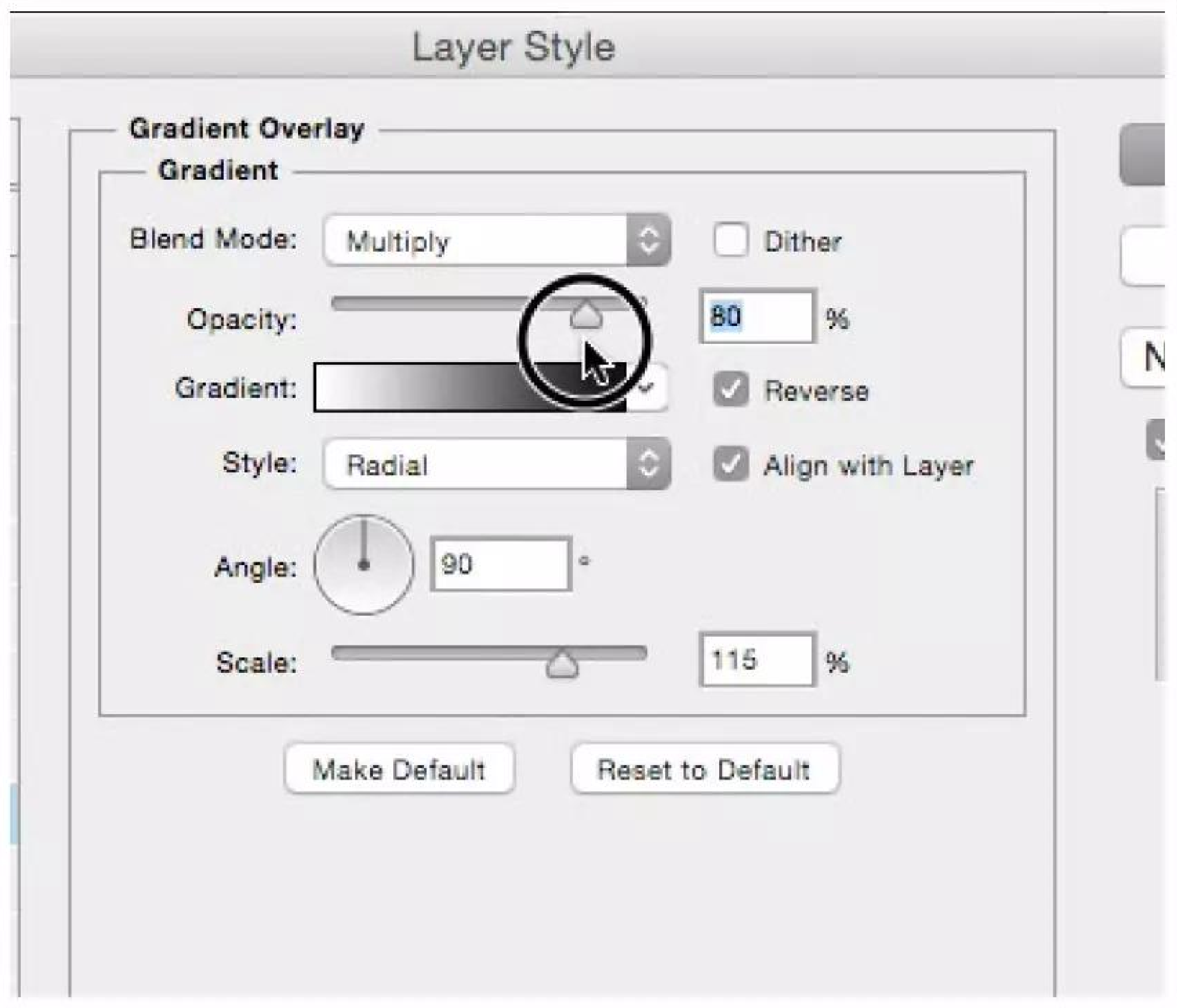
Opacity: %

Location: %

Color:

Location: 52 %

09 This opens the Gradient Editor where you can choose from a number of presets or you can move the stops that control the placement of the black and white colours in the gradient, along with its centre point.


Layer Style
Gradient Overlay
Gradient
Make Default
Reset to Default

Blend Mode: Multiply

☐ Dither

Opacity: 80 %

Gradient:

☑ Reverse

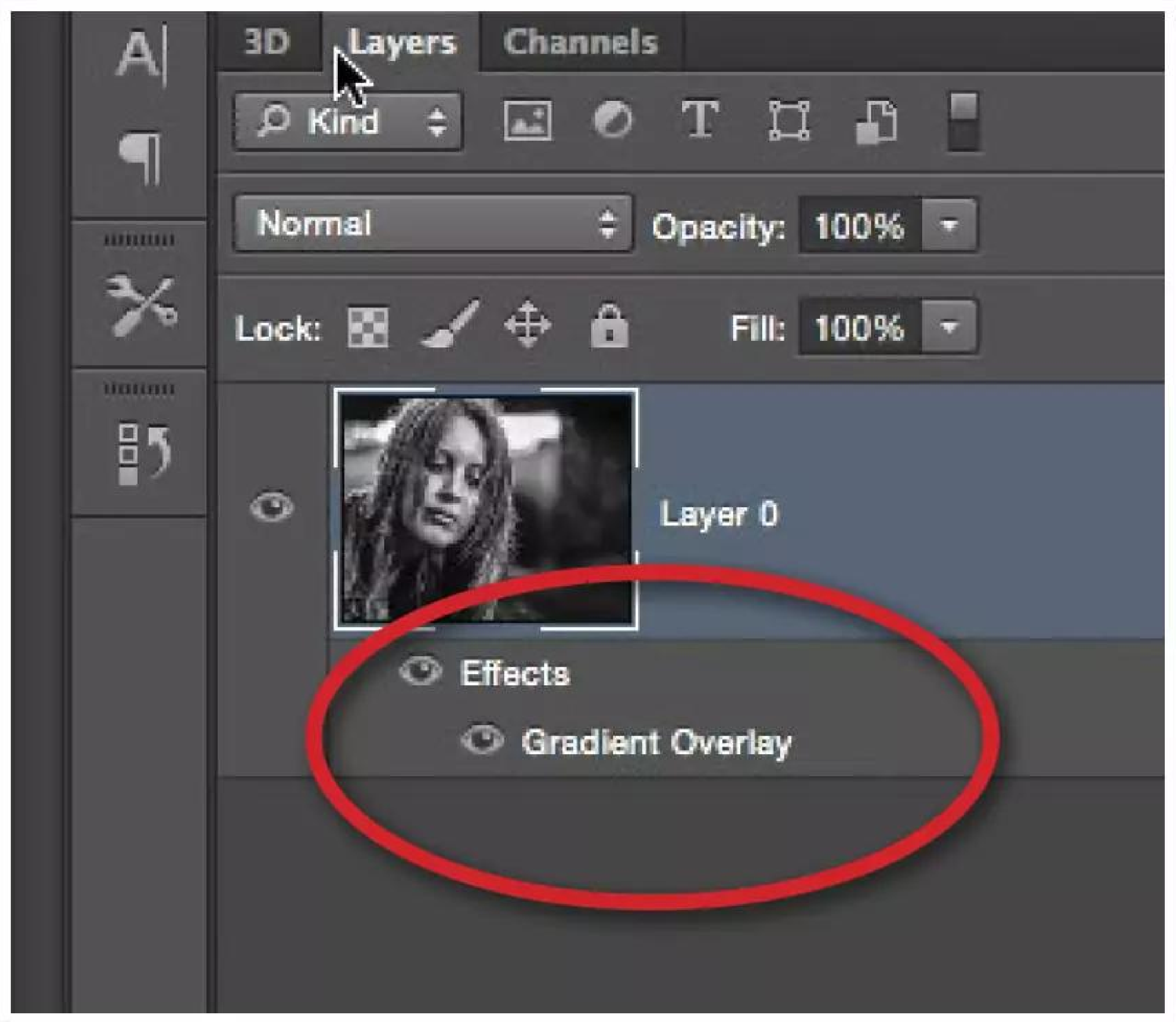
Style: Radial

☑ Align with Layer

Angle: 90 °

Scale: 115 %

10 You can also control the opacity of your vignette by moving the Opacity slider back and forth until you hide, or reveal, as much of your image to suit your taste. When you are happy with the adjustments, click OK.


3D
Layers
Channels
Kind

Normal

Opacity: 100%

Lock:

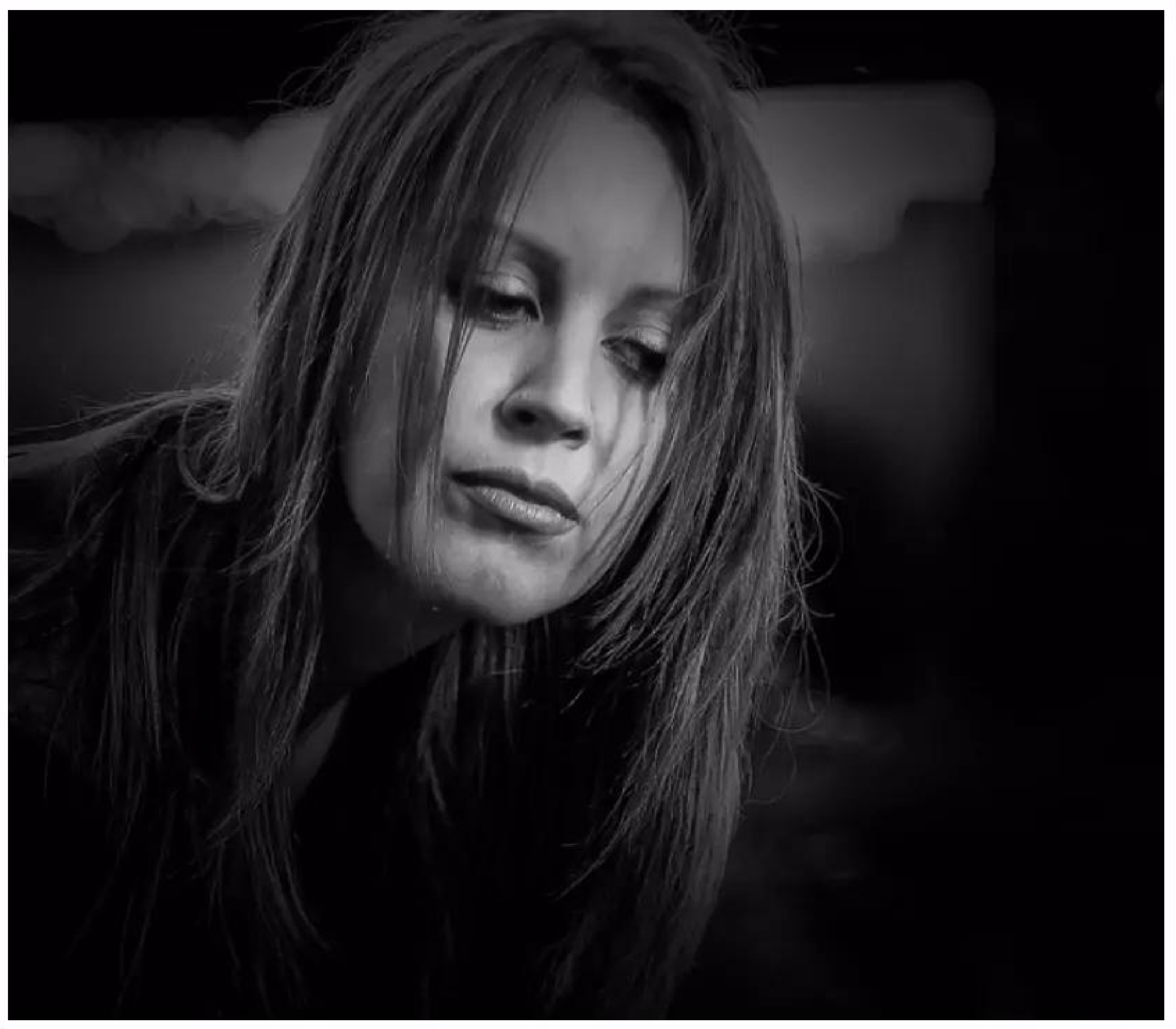
Fill: 100%

Layer 0

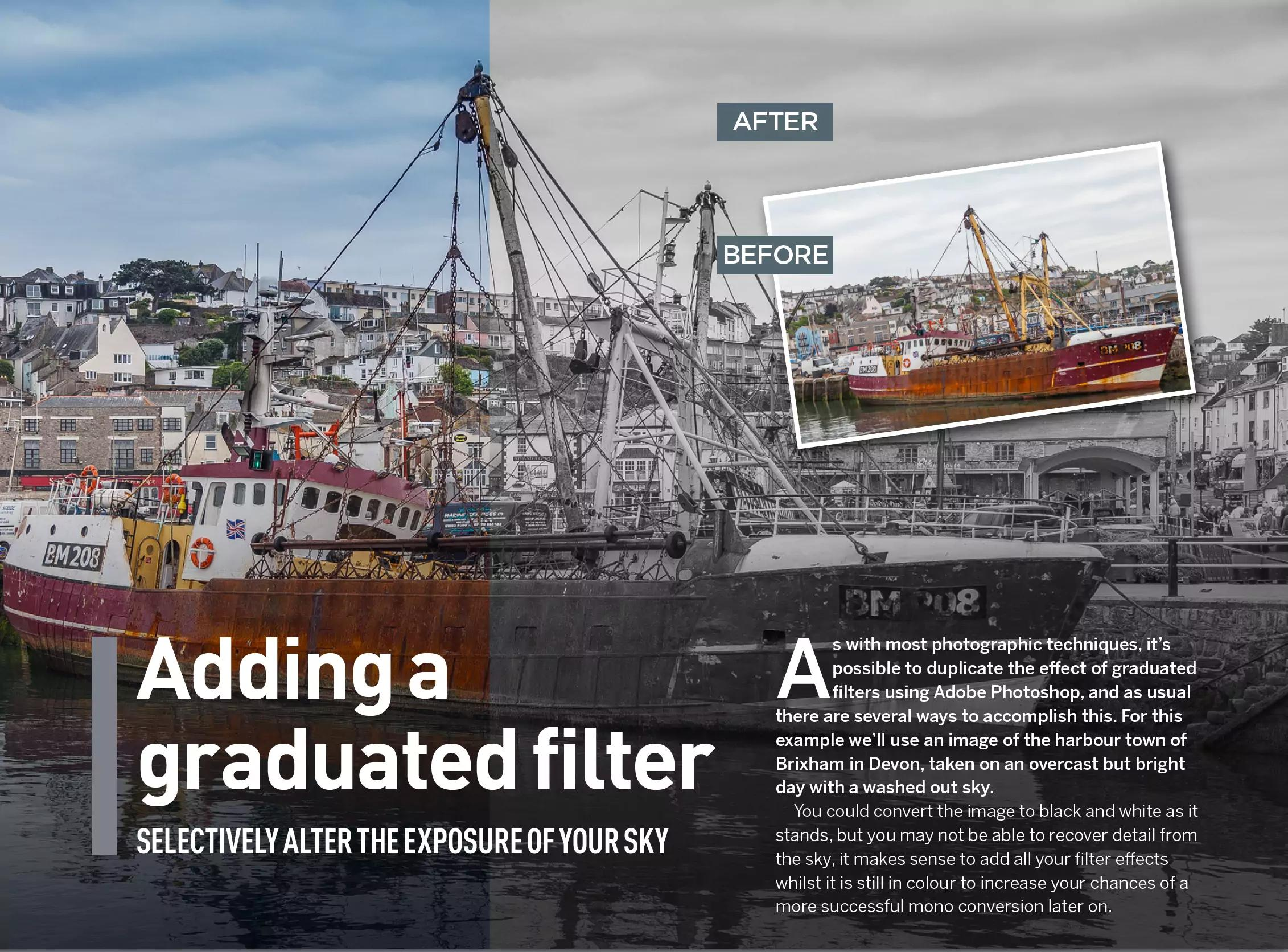
Effects

Gradient Overlay

11 The changes will be applied, and now you have your vignette. Your image layer thumbnail will show that you have an effect applied. The effect is non-destructive and you can double-click it to edit the settings once more.



12 Your movable vignette is complete. With a few simple steps you can focus attention on specific places within your image. A great feature to keep in mind when working with your black and white images.

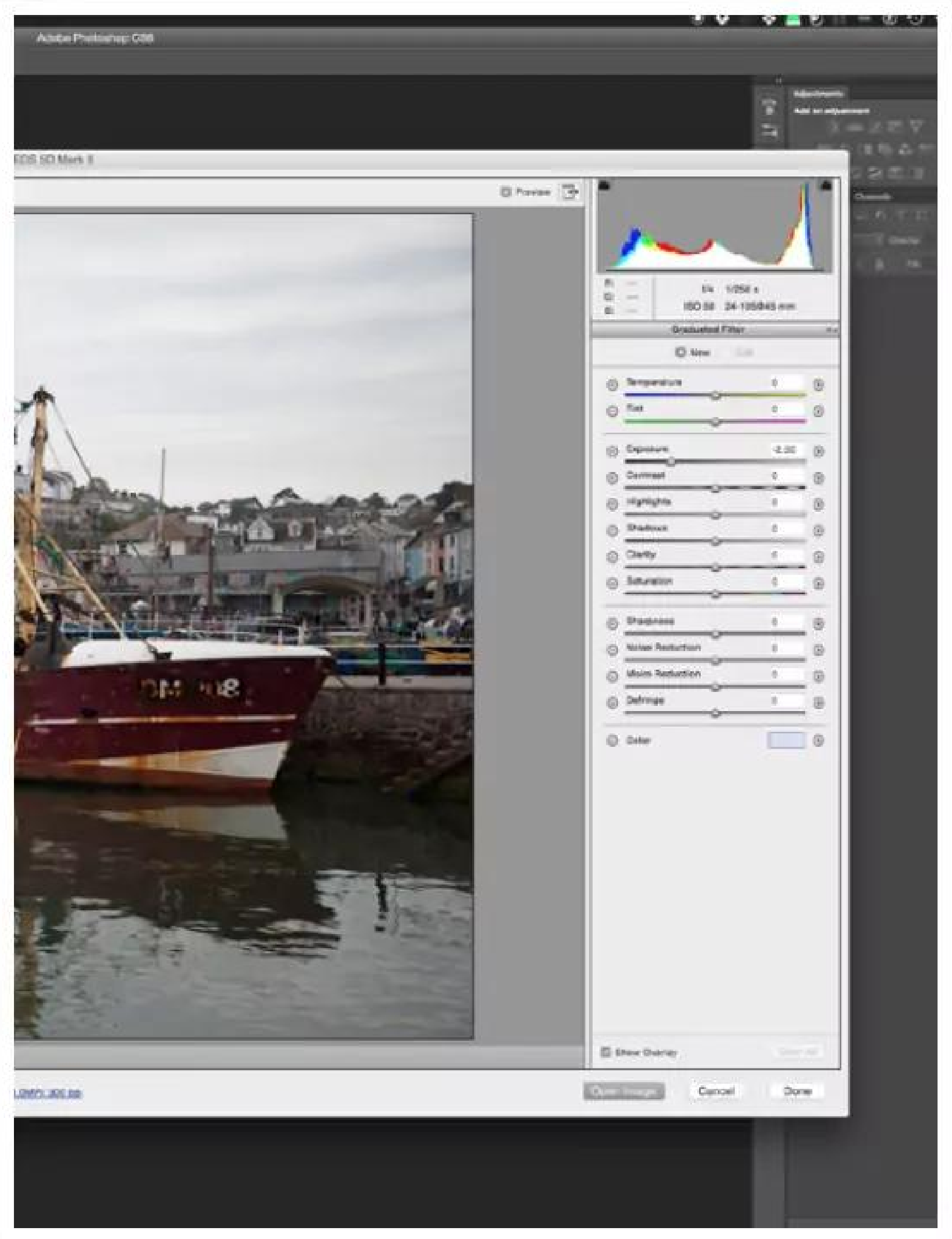


Adding a graduated filter

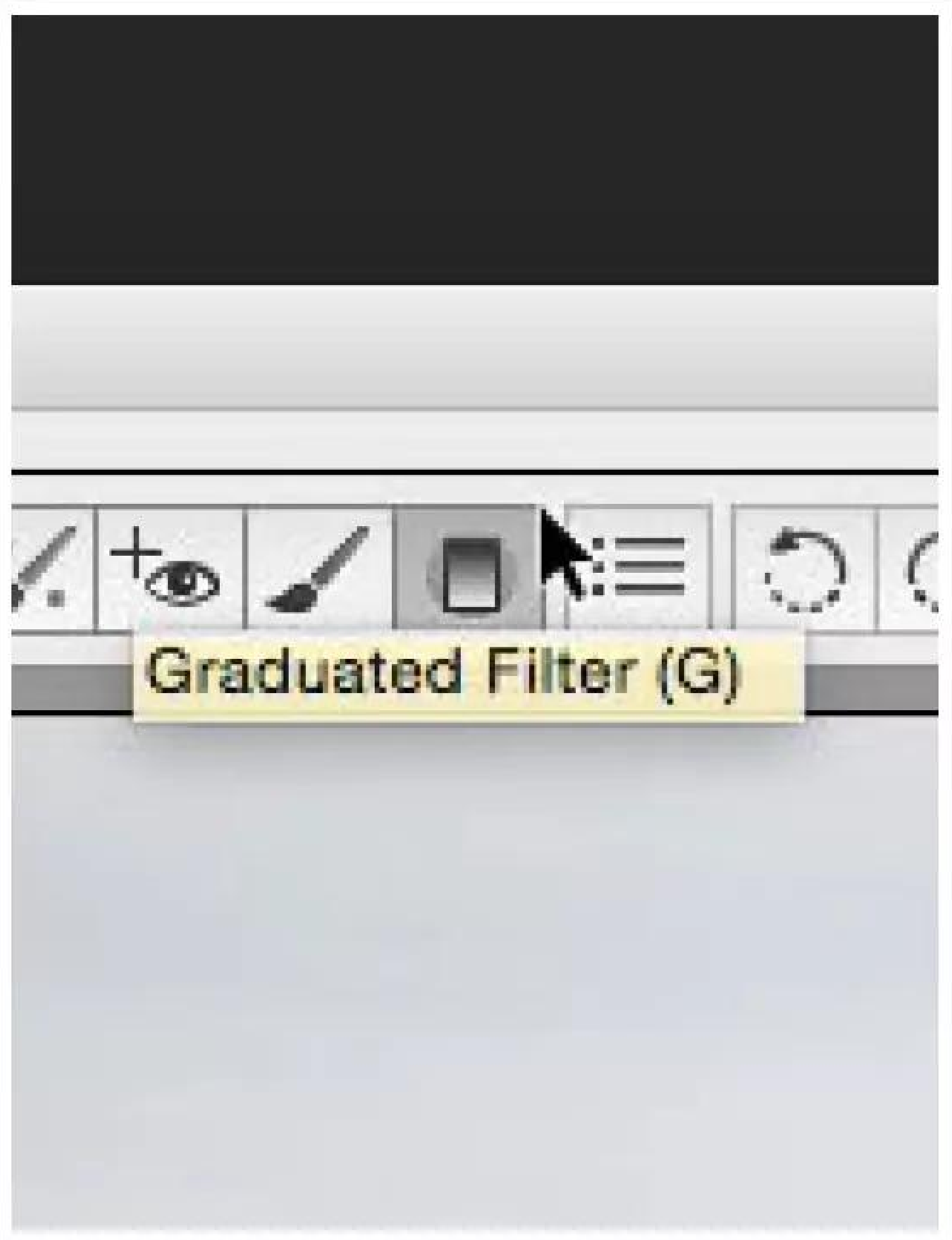
SELECTIVELY ALTER THE EXPOSURE OF YOUR SKY

As with most photographic techniques, it's possible to duplicate the effect of graduated filters using Adobe Photoshop, and as usual there are several ways to accomplish this. For this example we'll use an image of the harbour town of Brixham in Devon, taken on an overcast but bright day with a washed out sky.

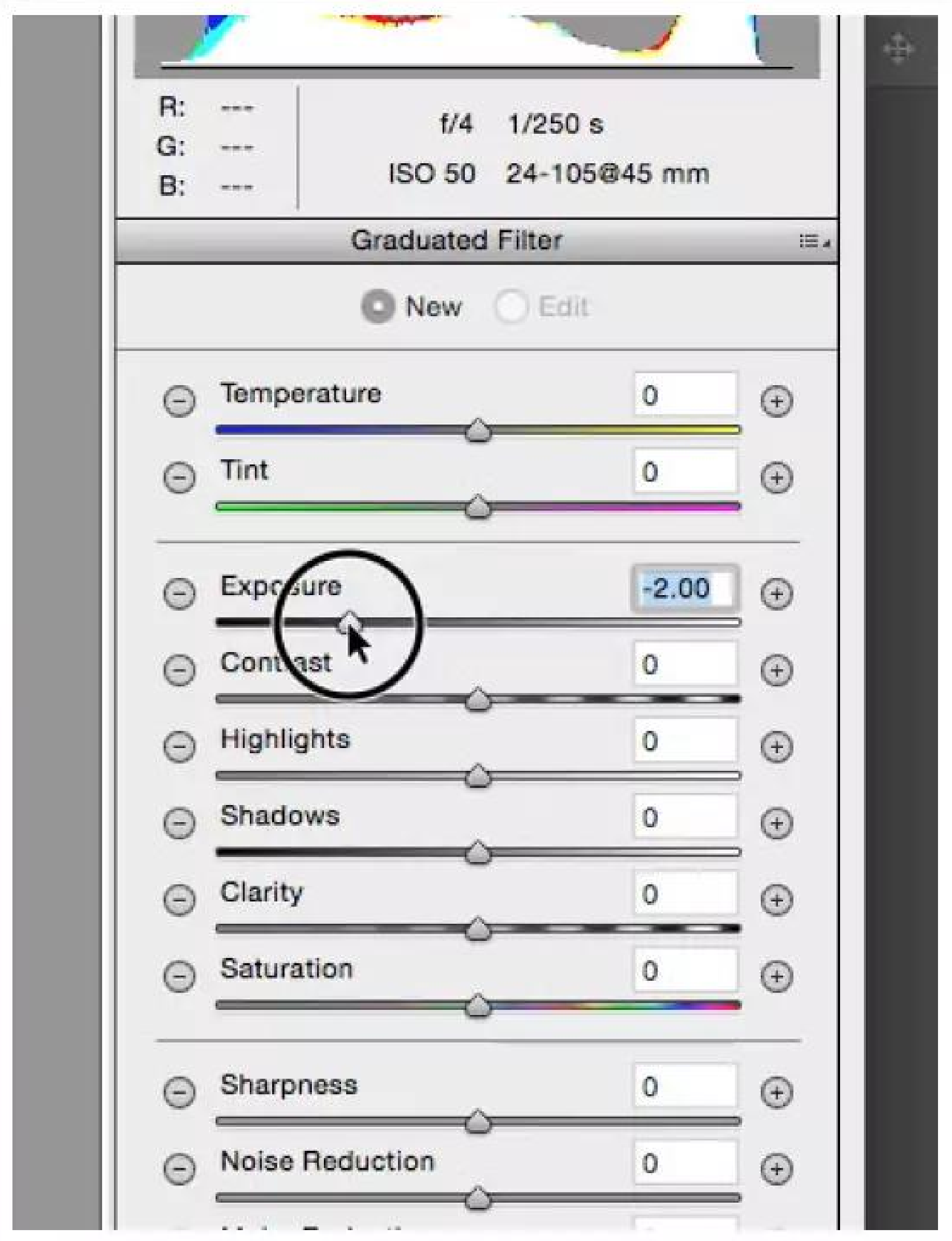
You could convert the image to black and white as it stands, but you may not be able to recover detail from the sky, it makes sense to add all your filter effects whilst it is still in colour to increase your chances of a more successful mono conversion later on.



01 Since this photo was taken using Raw mode, we can use the Graduated Filter tool in Adobe Camera Raw to add the effect during processing. This is by far the best way to do it, since it preserves the maximum amount of detail in the photograph.



02 When you open the image in Adobe Camera Raw, you'll see a row of tool icons across the top of the main image window. The Graduated Filter icon is to the right.



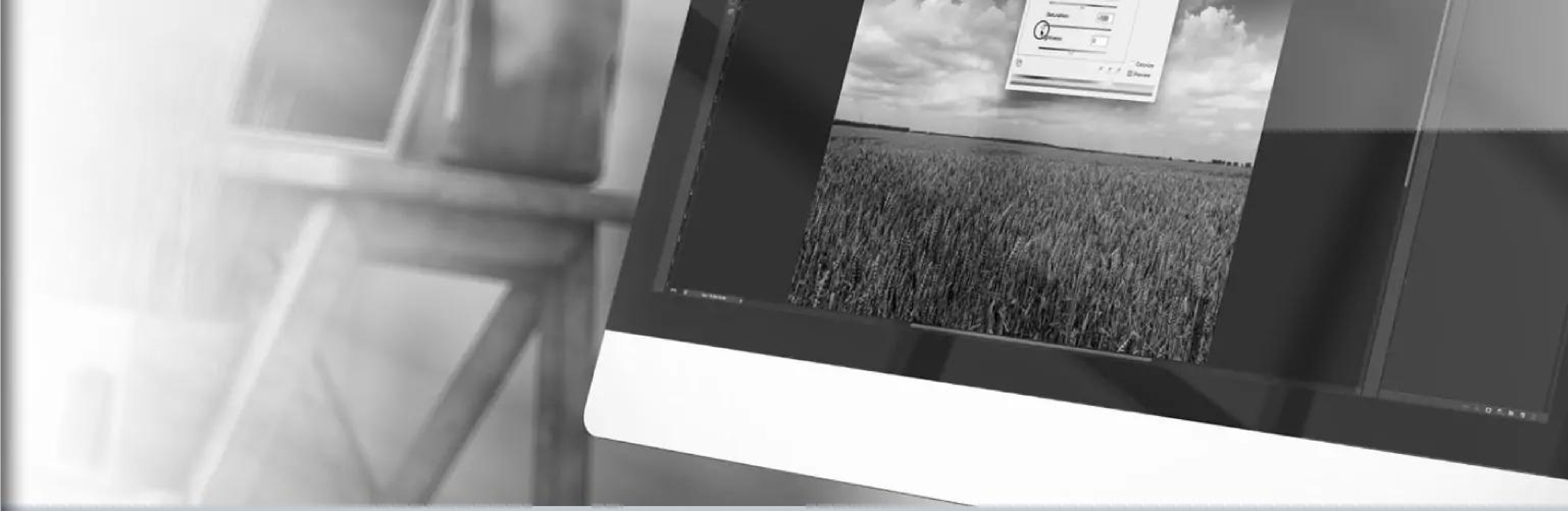
R: ---
G: ---
B: ---
f/4 1/250 s
ISO 50 24-105@45 mm

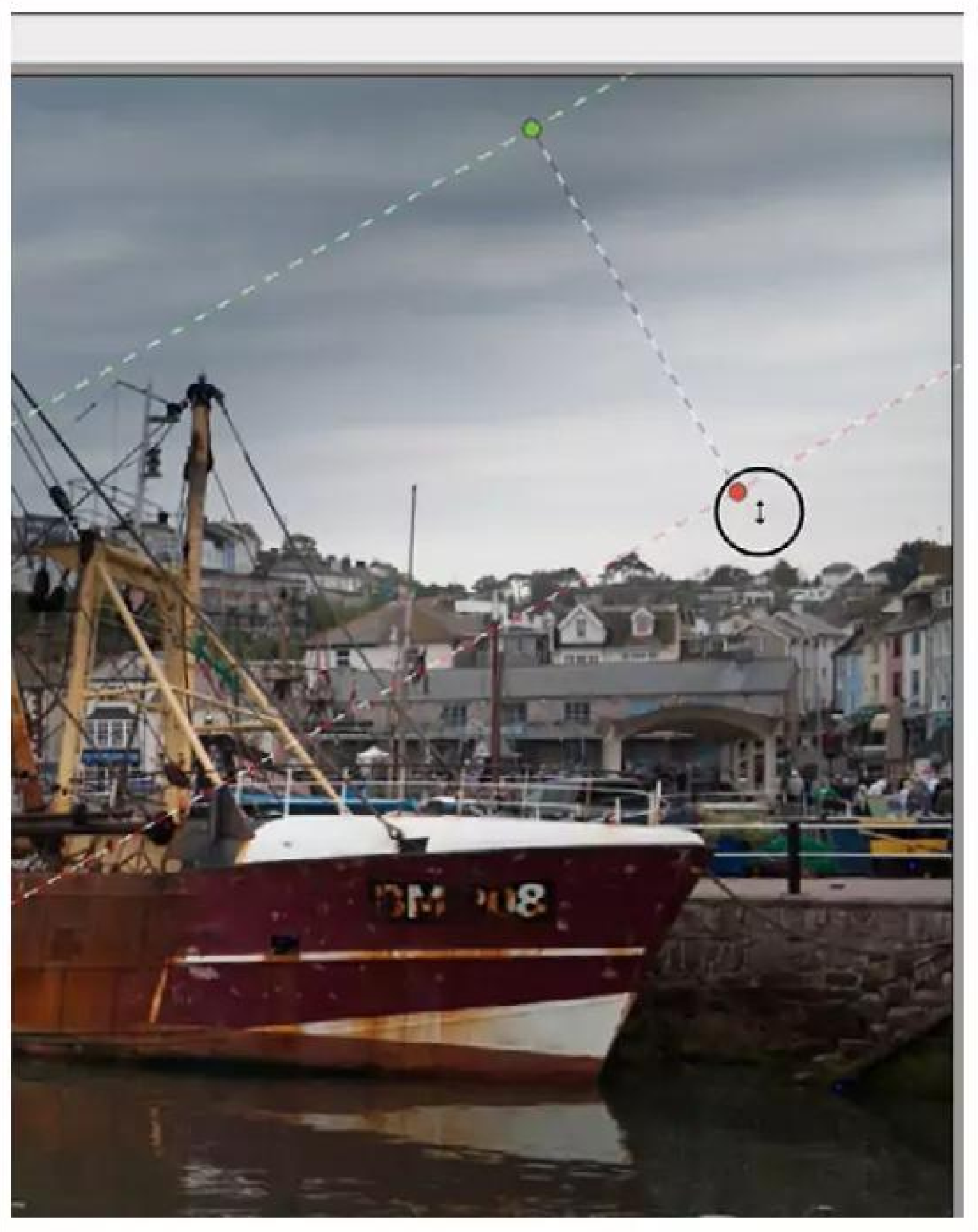
Graduated Filter

● New ○ Edit

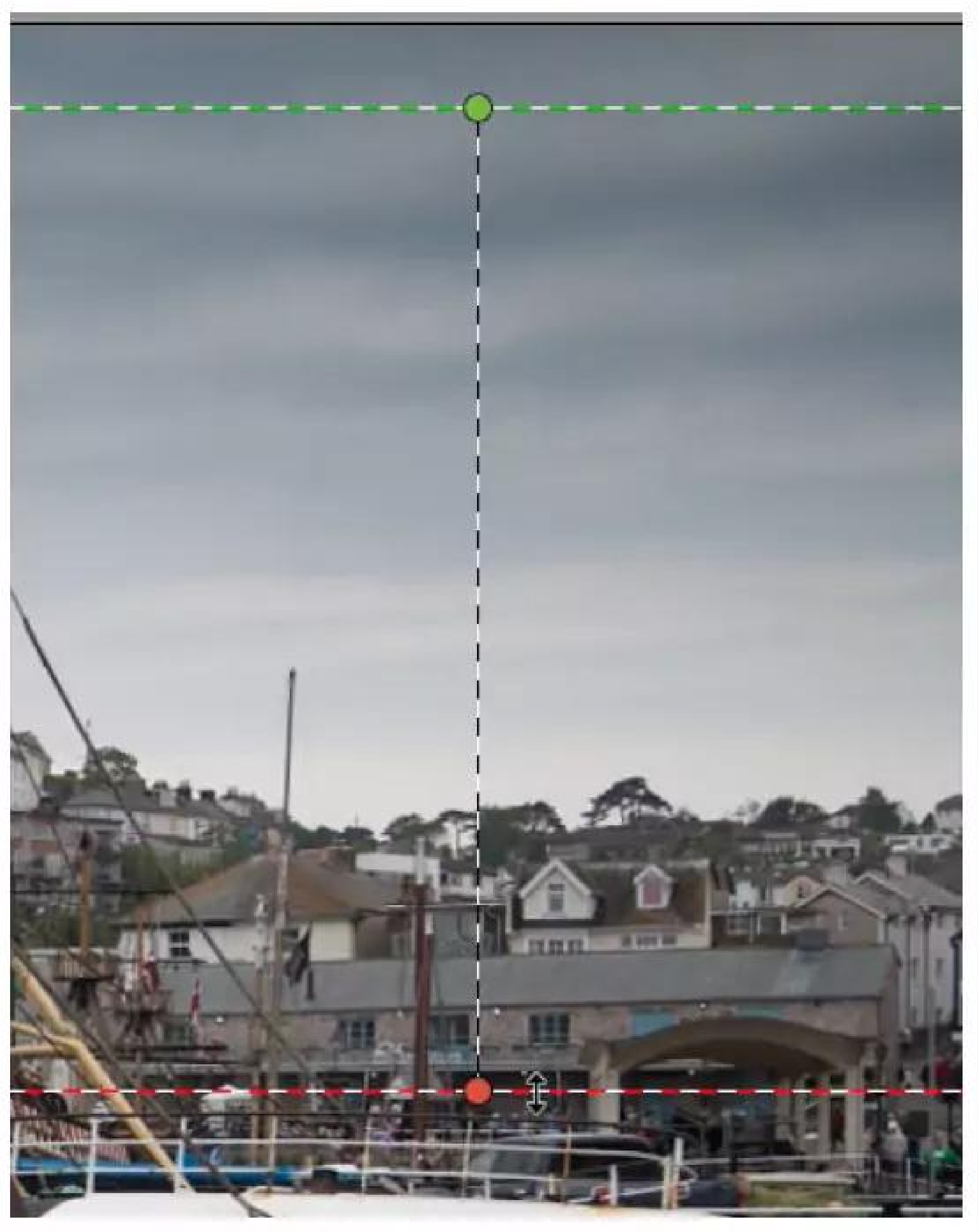
Temperature 0
Tint 0
Exposure -2.00
Contrast 0
Highlights 0
Shadows 0
Clarity 0
Saturation 0
Sharpness 0
Noise Reduction 0

03 Click on the Graduated Filter icon. You'll see the control panel on the right of the screen change. We want to use a reduction in exposure. A setting of -2.0 should produce a suitable effect for this picture.

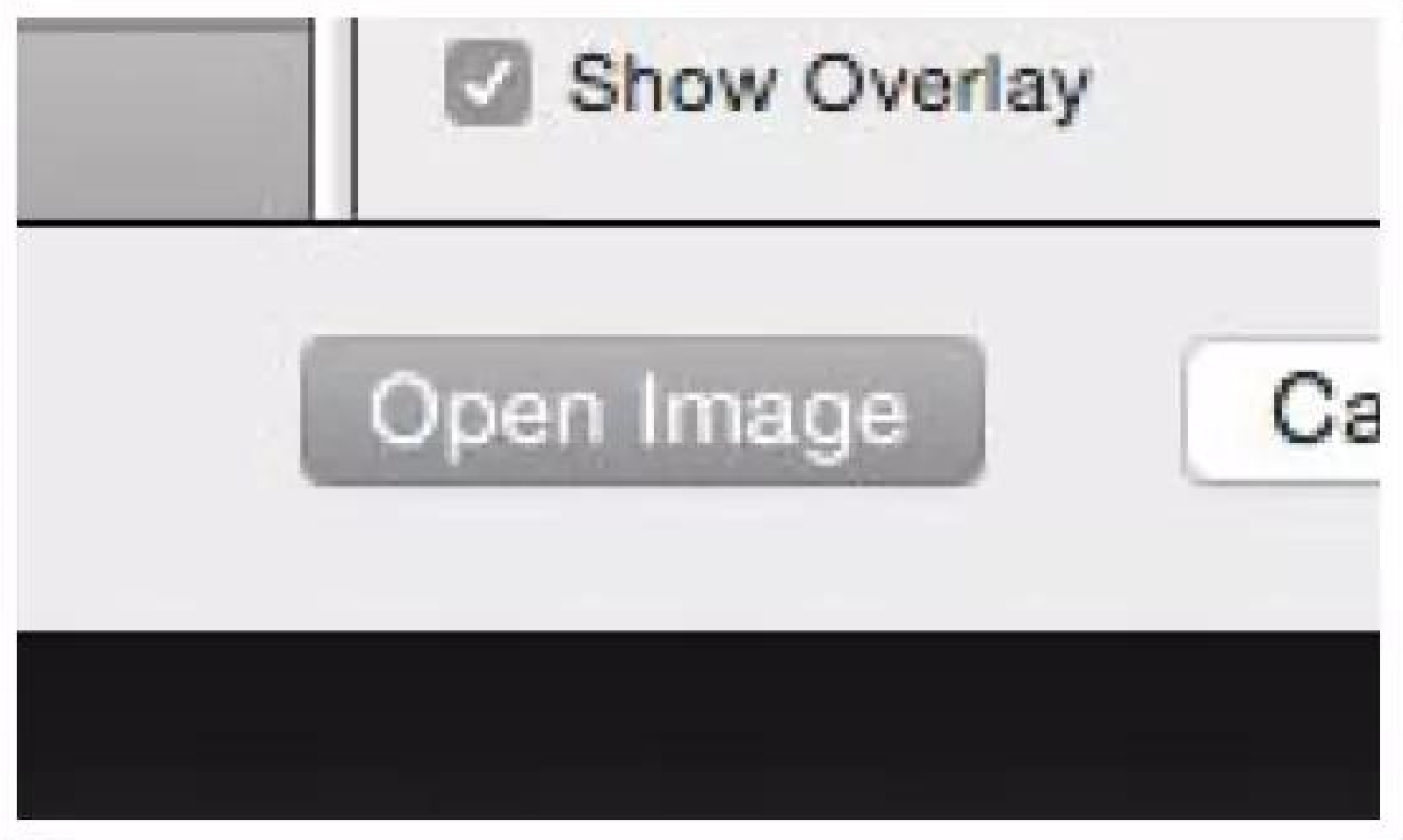


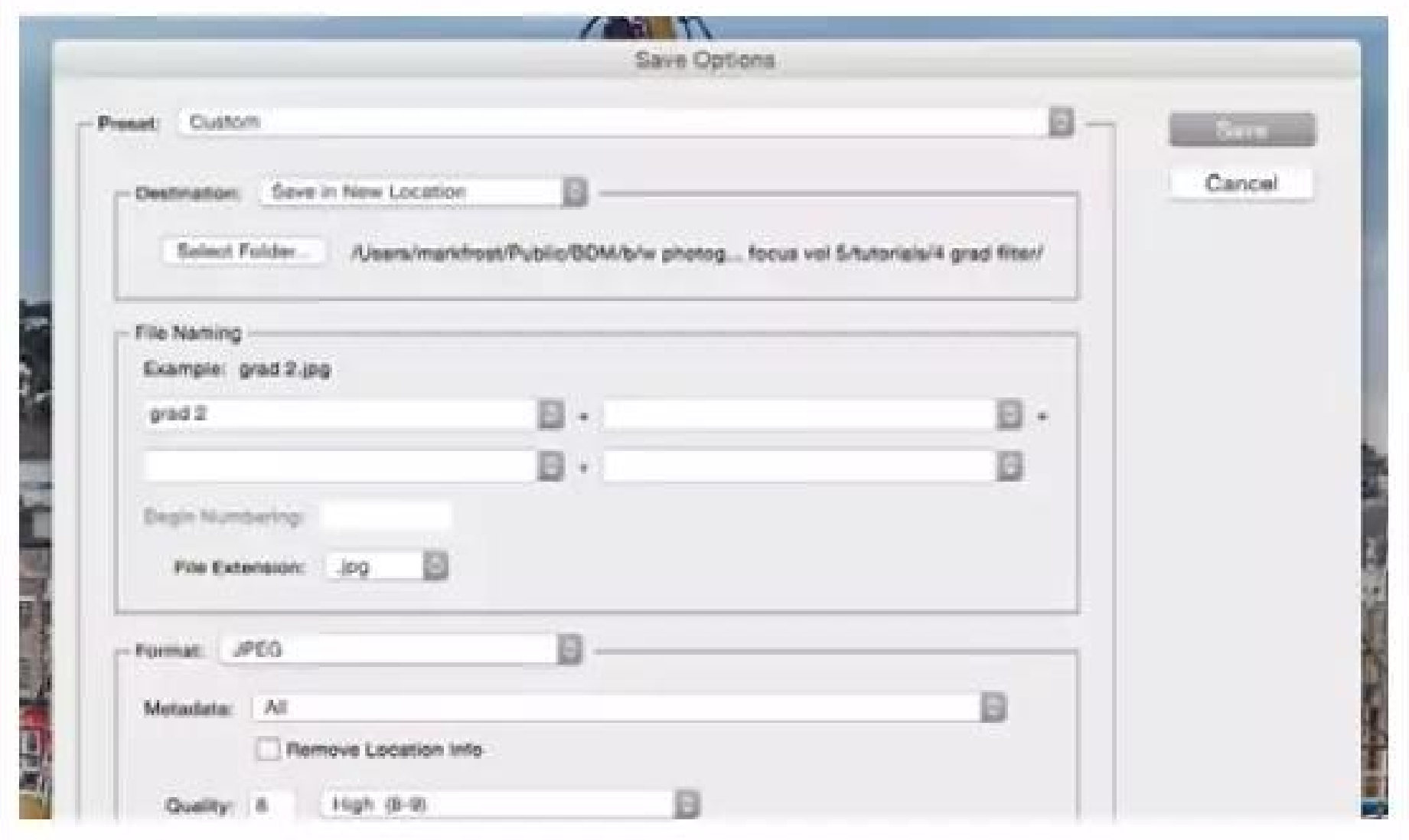


04 Drag a line down from the top of the screen to the horizon line. You'll see a horizontal and vertical dotted line like an inverted T. You can change the angle of the line by moving the cursor left and right, or you can hold the Shift key to constrain the line to the vertical.

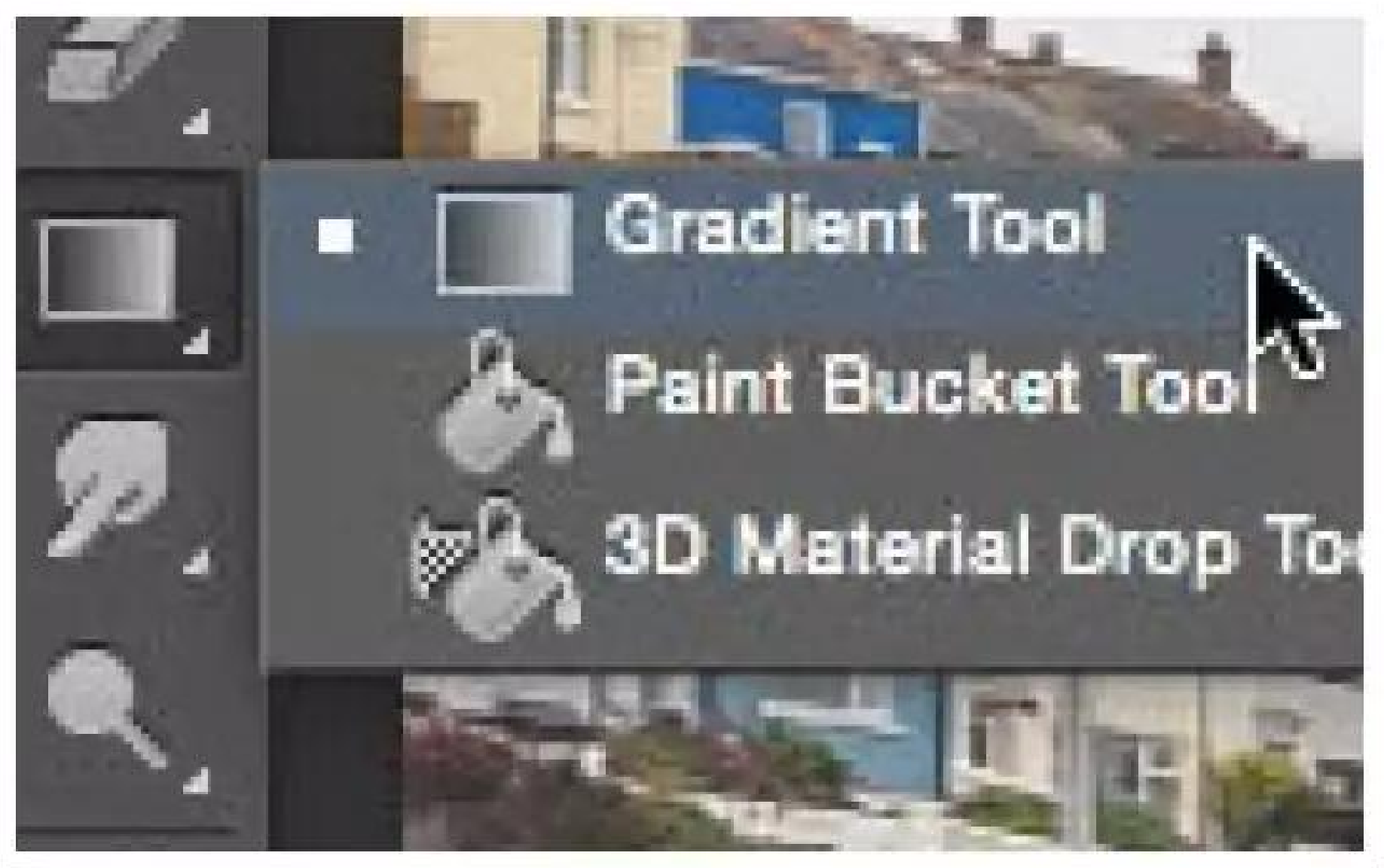


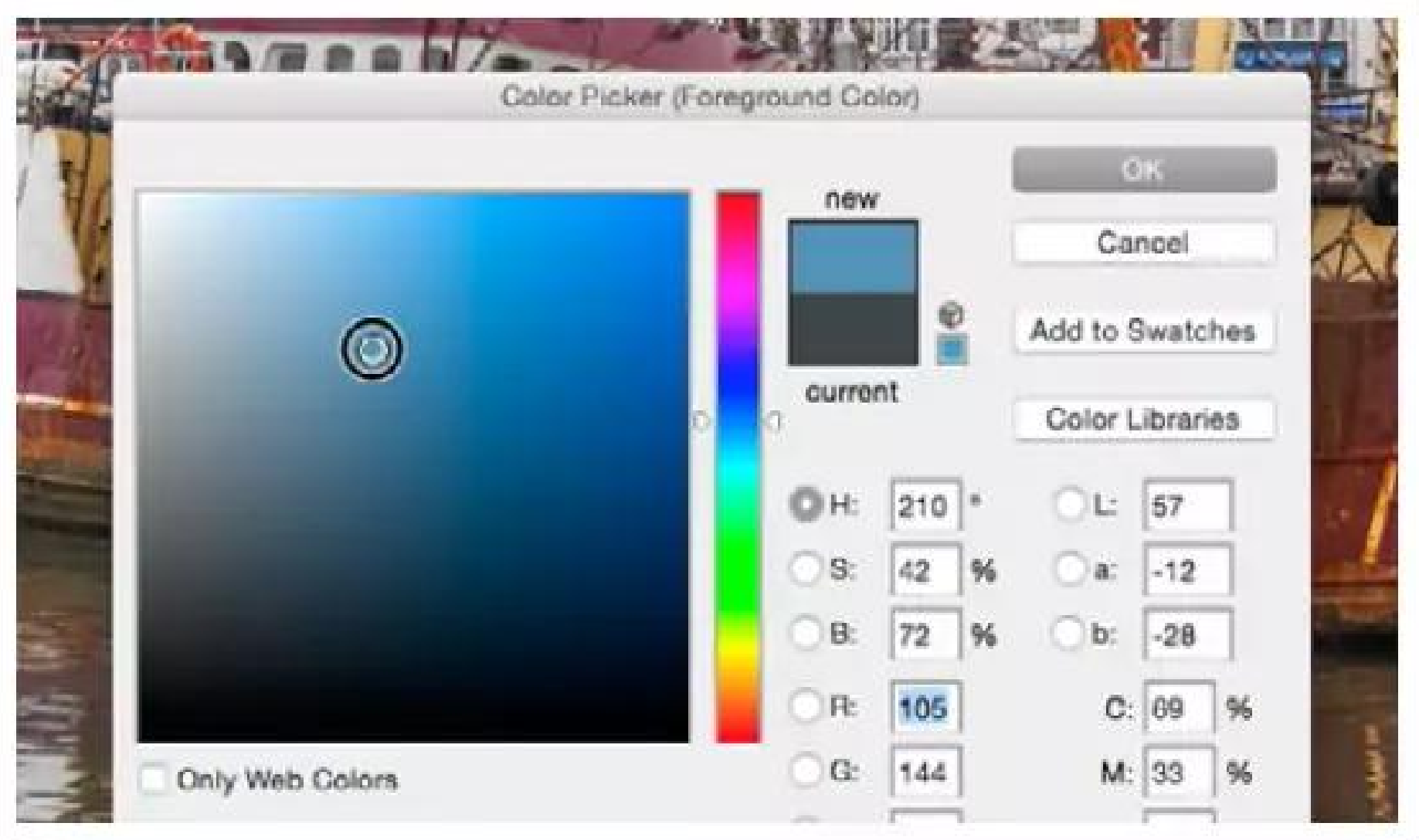
05 The red dotted line marks the lower area of the gradient effect, and a green line marks the top or darkest area of the effect, with a smooth gradient between the two lines. If you drag this green line down, more of the image will be at maximum effect and the gradient will be shorter.


☑ Show Overlay
Open Image
Ca


Save Options
Save
Cancel

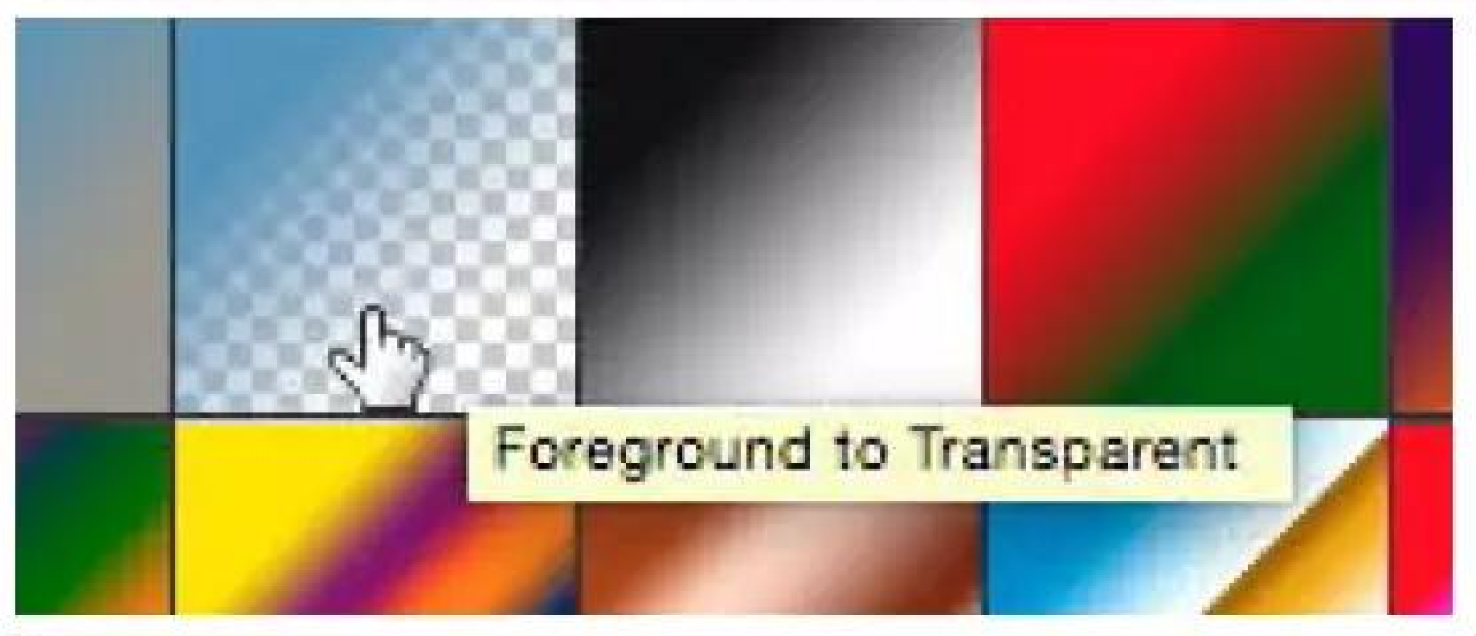
06 At this point you could click Open Image and work on it further in Photoshop or just save it using the options available in Adobe Camera Raw. If you don't have a Raw file, you can always open a jpeg in Photoshop and add a grad there.


Gradient Tool
Paint Bucket Tool
3D Material Drop To


Color Picker (Foreground Color)
OK
Cancel
Add to Swatches
Color Libraries
new
current
Only Web Colors

H: 210 °
S: 42 %
B: 72 %
R: 105
G: 144
L: 57
a: -12
b: -28
C: 69 %
M: 33 %

07 If you prefer to work on your image in Photoshop, you can apply a graduated filter using the Gradient Tool. Select the Gradient Tool, then set the foreground colour to blue by clicking on the foreground square and then using the colour picker.


Foreground to Transparent

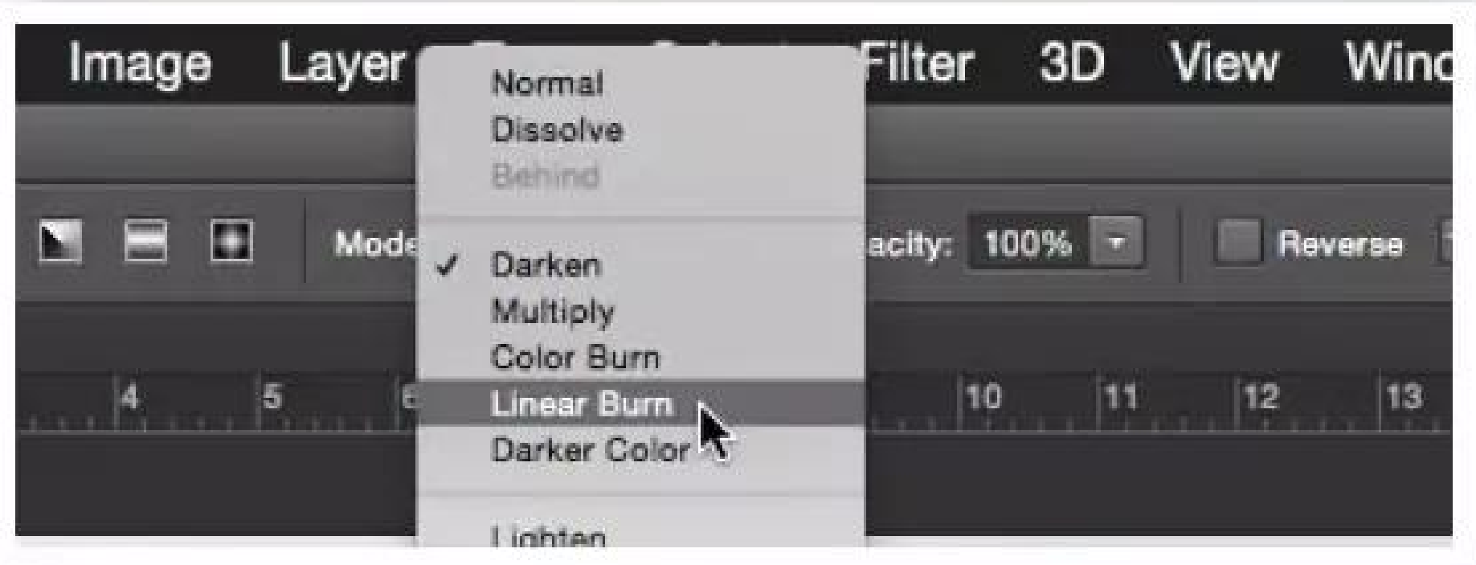
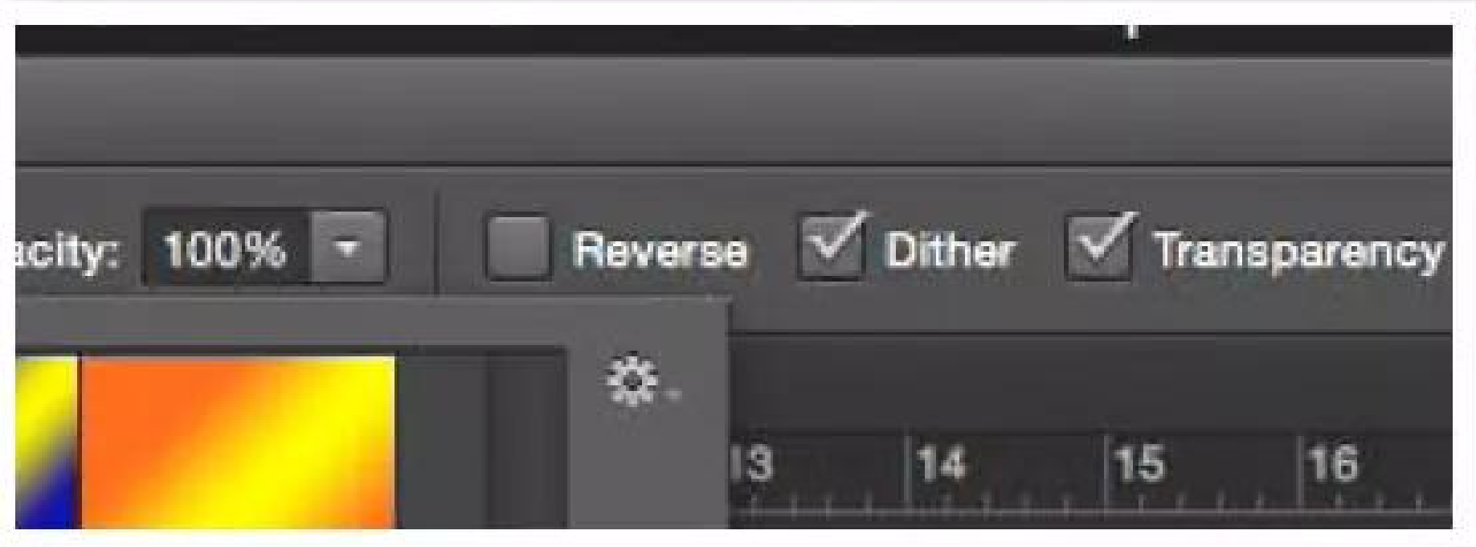
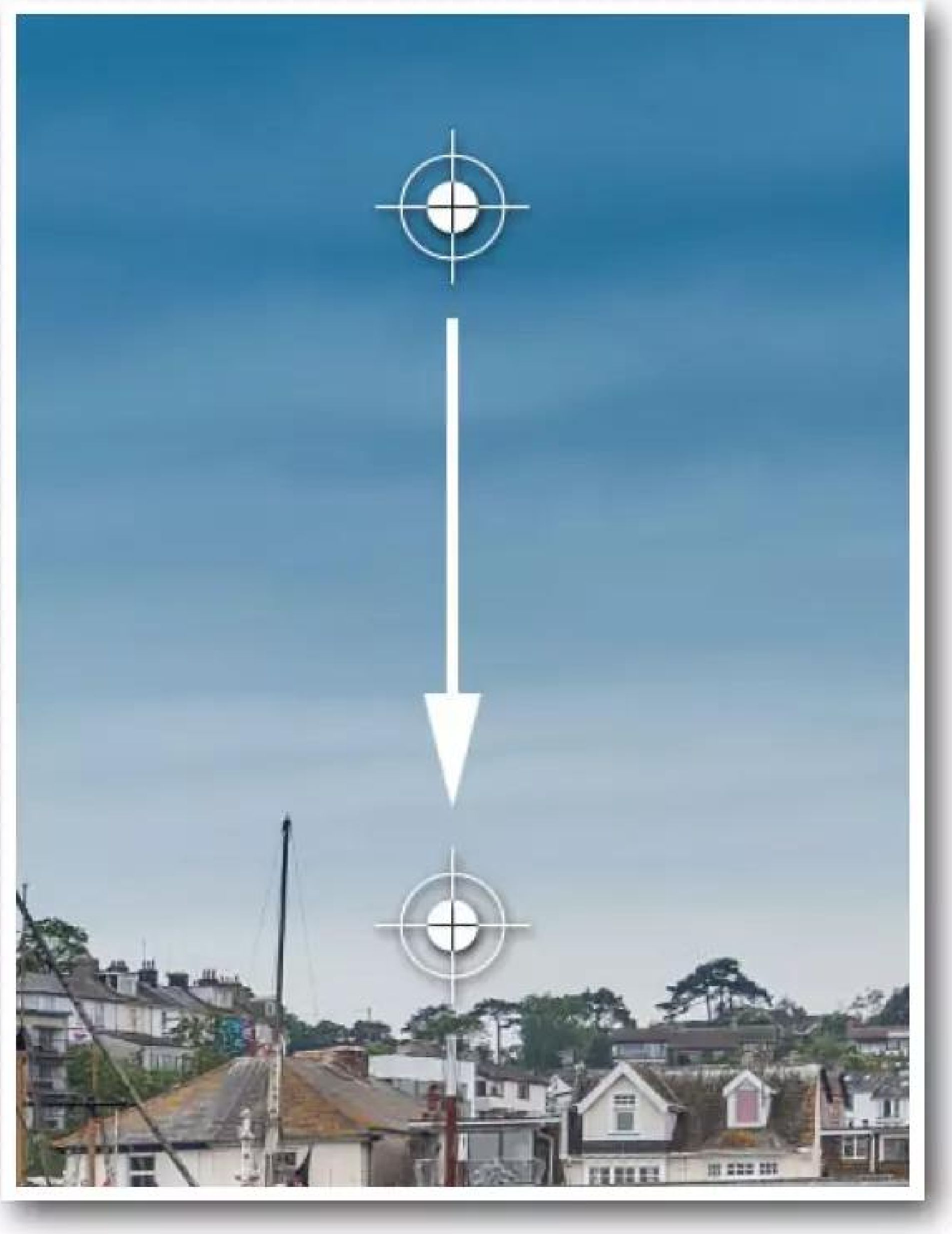


Image
Layer
Filter
3D
View
Wind
Normal
Dissolve
Behind
Darken
Multiply
Color Burn
Linear Burn
Darker Color
Lighten
Mode
acity: 100%
Reverse


acity: 100%
☐ Reverse
☑ Dither
☑ Transparency

08 In the tool options bar, click on the gradient editor and select Foreground to Transparent; click on the button for Linear Gradient, set the Blending mode to Linear Burn, and keep the Opacity to 100%. Make sure the boxes for Dither and Transparency are checked.



09 Start at the top of the frame, click and drag down to the horizon line. If you hold down the shift key it will constrain the line to the vertical. A blue grad is blended into the sky, adding some detail back into the sky. Now your conversion to black and white will benefit from a more detailed sky.

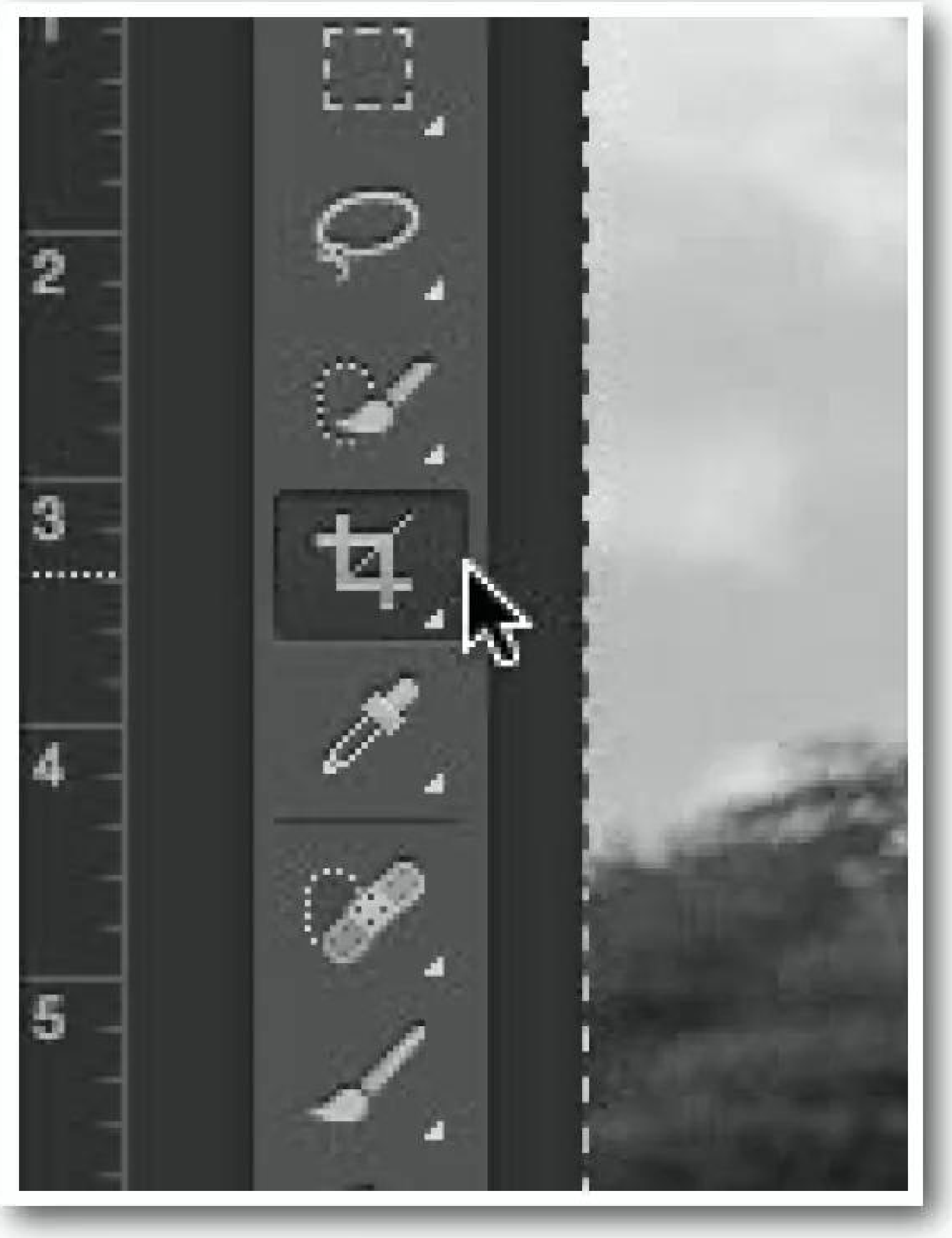
Cropping and resizing

CROP OUT THINGS YOU DON'T WANT TO SEE IN YOUR SHOTS

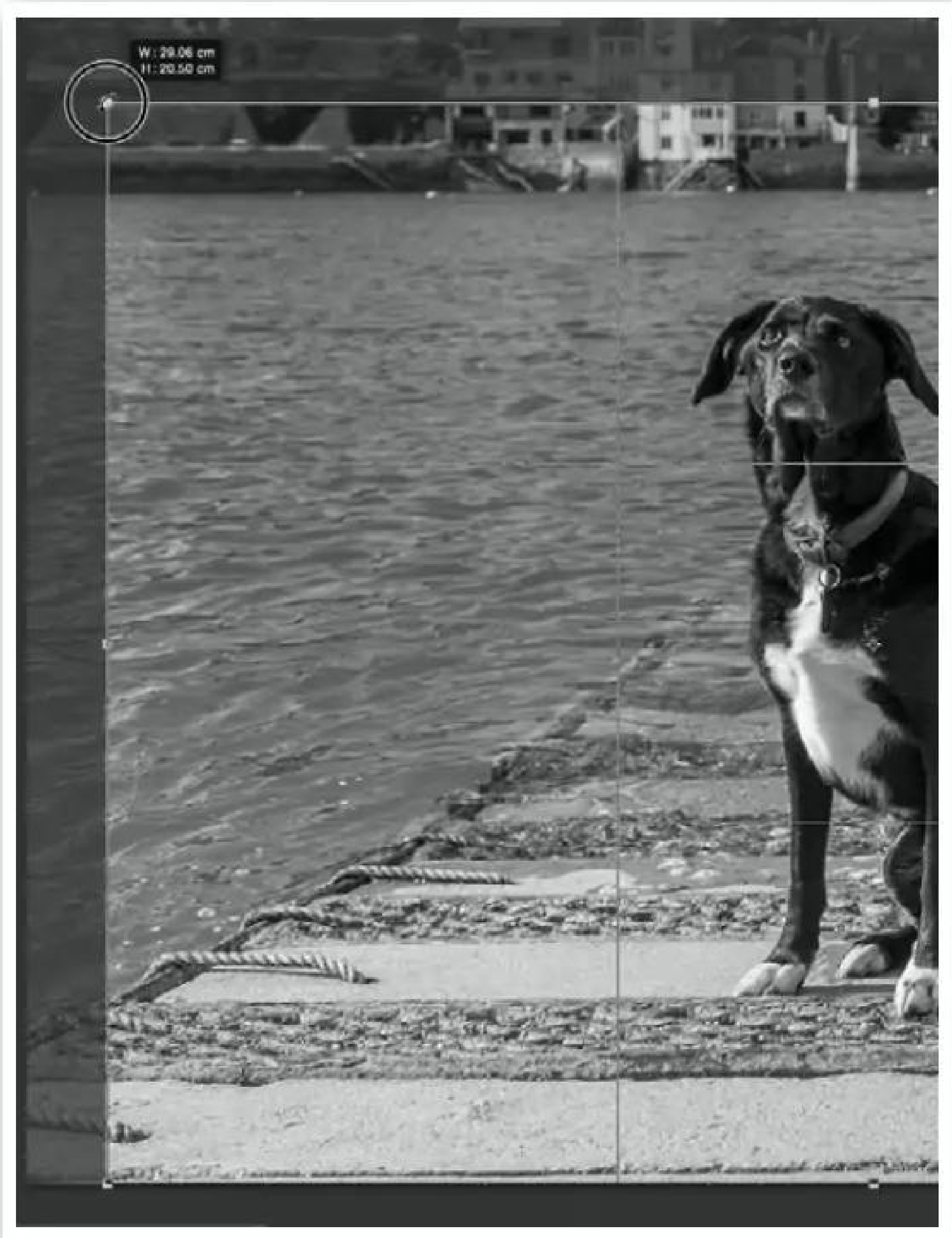
Sometimes a digital photograph can be the wrong size. Maybe you've got too much of the surroundings in the picture, when you wanted to concentrate on just the main subject; or maybe the whole image is too big, and you need to make it smaller to send via email or publish on a website. Doing both of these things is very quick and simple in Photoshop.

As a starting image we'll use this harbour picture. What we want to do first is crop it down so we just have the dog and the slipway centred in the frame.

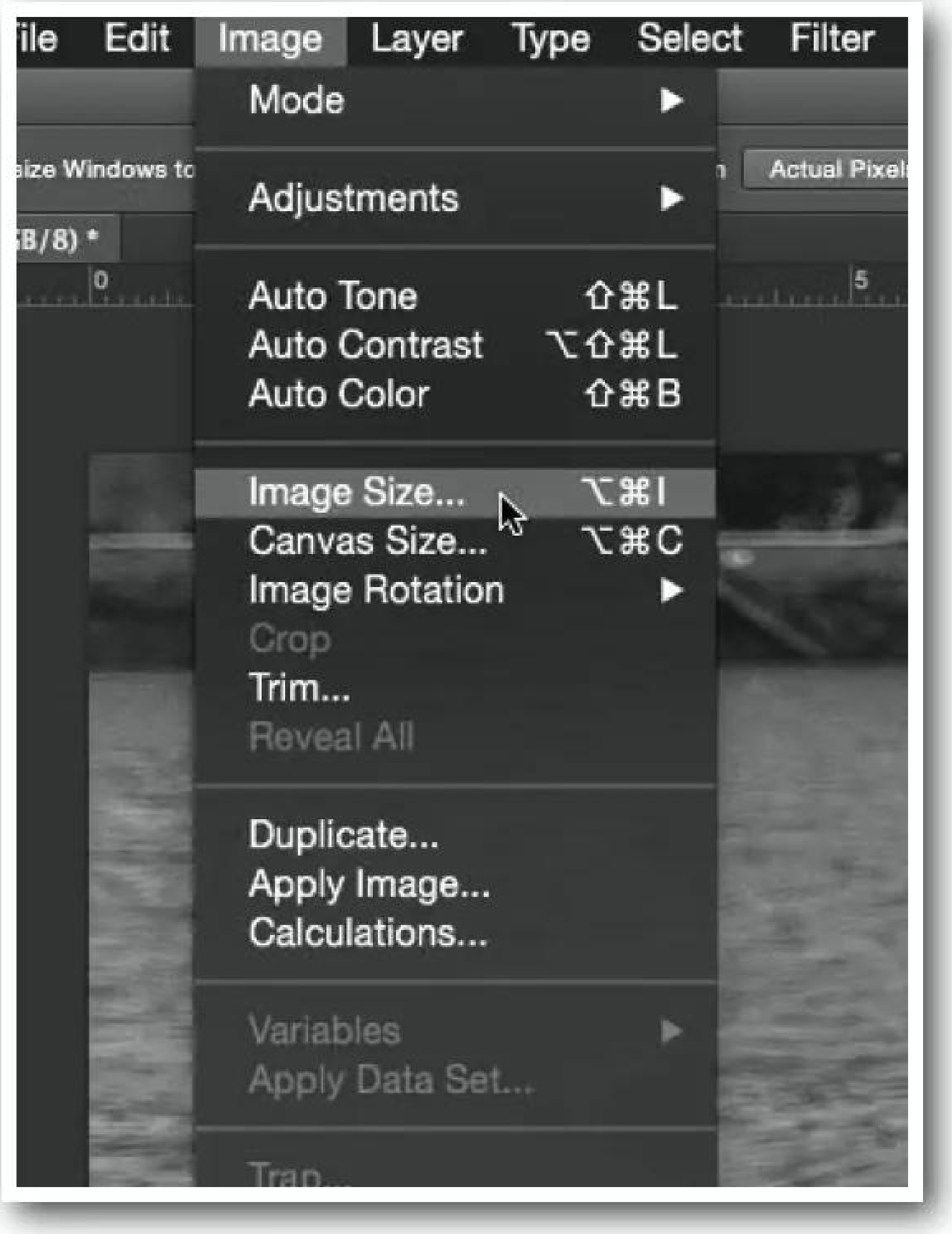
AFTER
BEFORE



01 The best tool for the job is, not surprisingly, the Crop tool. You'll find it in the tool palette, fourth down from the top. It looks a bit like two set-squares.



02 Click near one corner and then drag a box around the area you want to crop. You can adjust the size of the box by using the drag-handles on each side and corner. Press Enter to perform the crop.


File
Edit
Image
Layer
Type
Select
Filter
Mode
Adjustments
Auto Tone ⇧⌘L
Auto Contrast ⌥⇧⌘L
Auto Color ⇧⌘B
Image Size... ⌥⌘I
Canvas Size... ⌥⌘C
Image Rotation
Crop
Trim...
Reveal All
Duplicate...
Apply Image...
Calculations...
Variables
Apply Data Set...
Trap...

03 Next we'll resize the image. To do this you'll need to get to the Image menu and select Image Size, or use the keyboard shortcut Cmd + Alt + I.

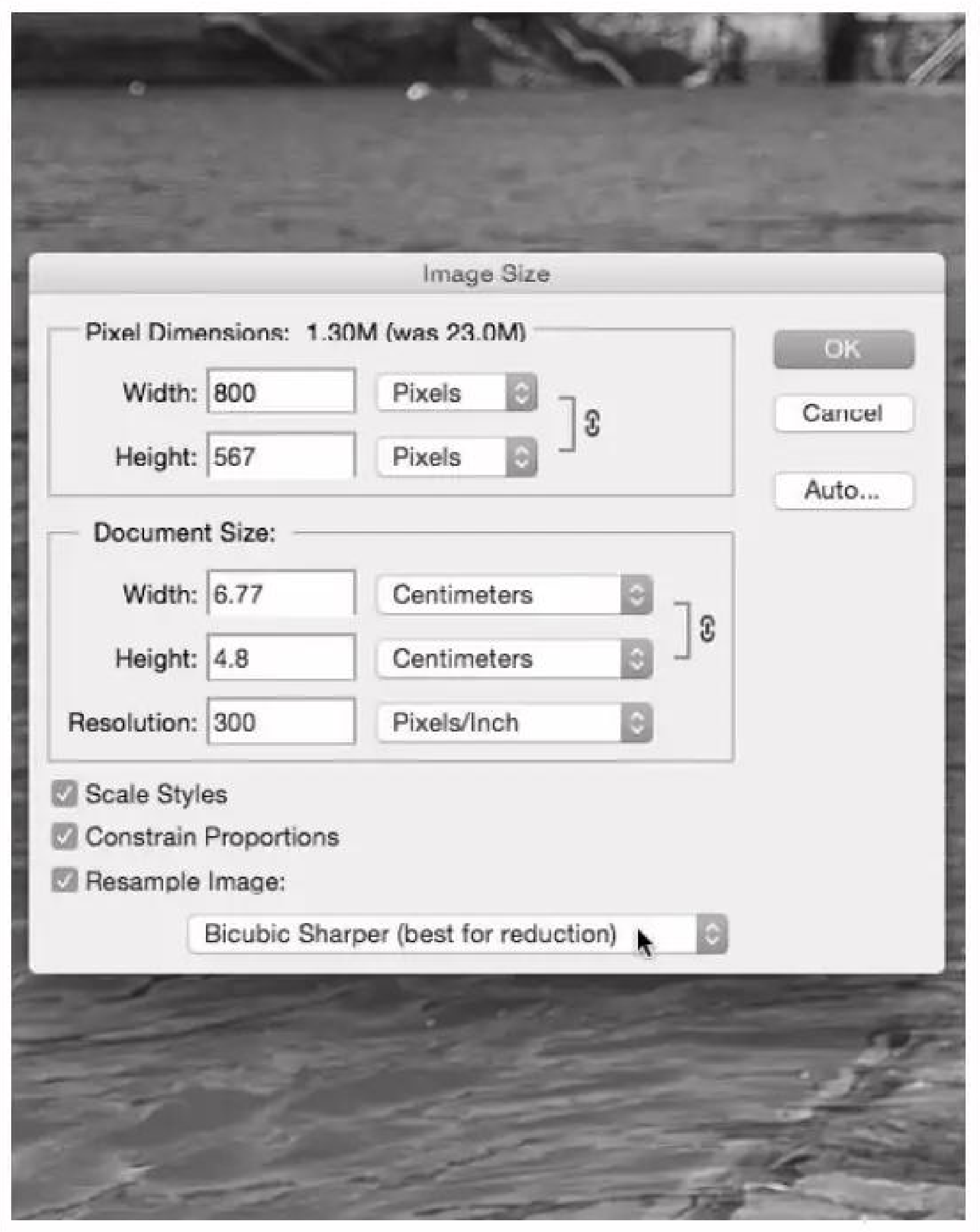


Image Size
OK
Cancel
Auto...

Pixel Dimensions: 1.30M (was 23.0M)
Width: 800 Pixels
Height: 567 Pixels
Document Size:
Width: 6.77 Centimeters
Height: 4.8 Centimeters
Resolution: 300 Pixels/Inch
☑ Scale Styles
☑ Constrain Proportions
☑ Resample Image:
Bicubic Sharper (best for reduction)

04 In the Image Size dialog box, check the box marked Resample Image, and open the drop-down option panel below it. We're reducing the size of this picture, so select Bicubic Sharper.

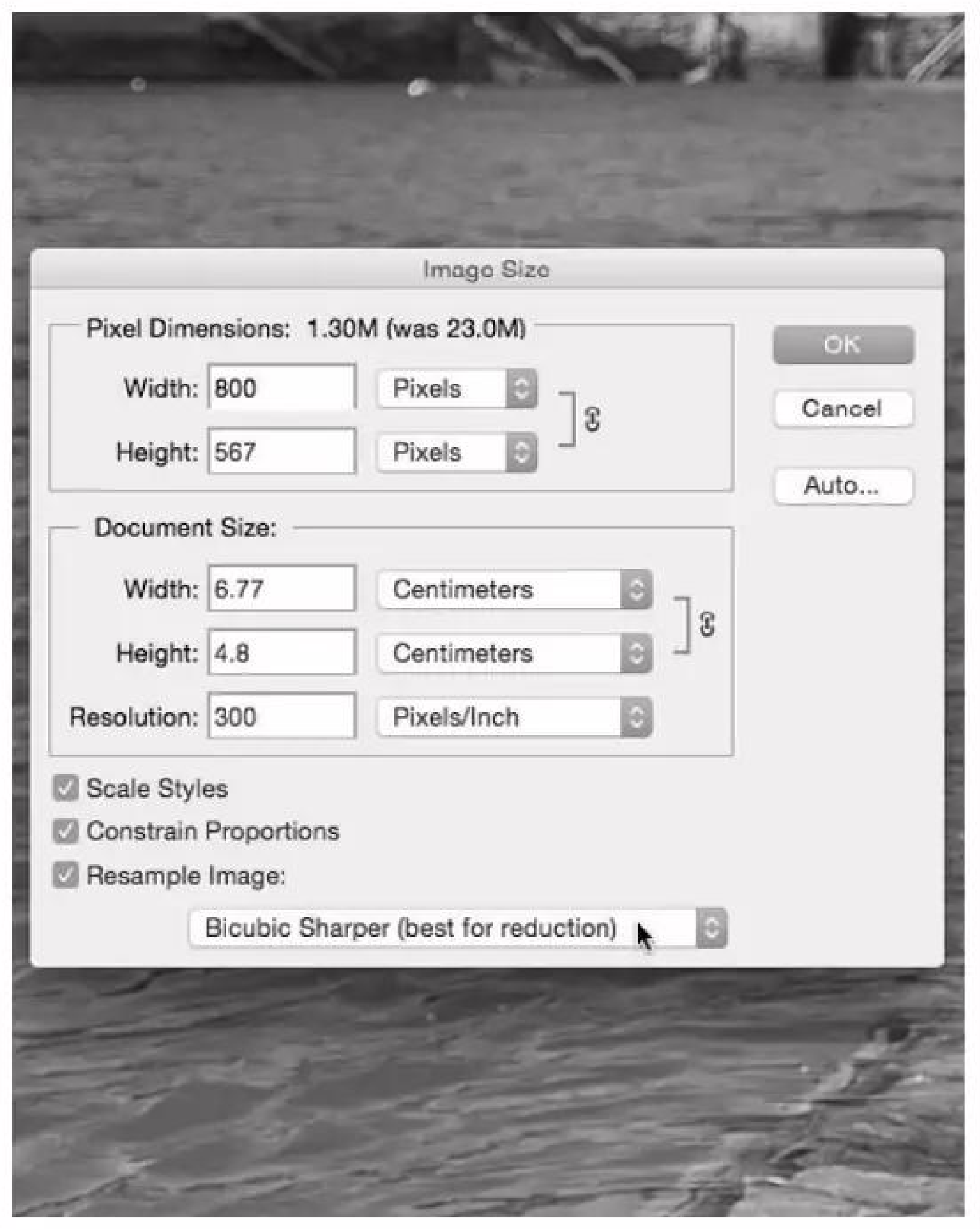
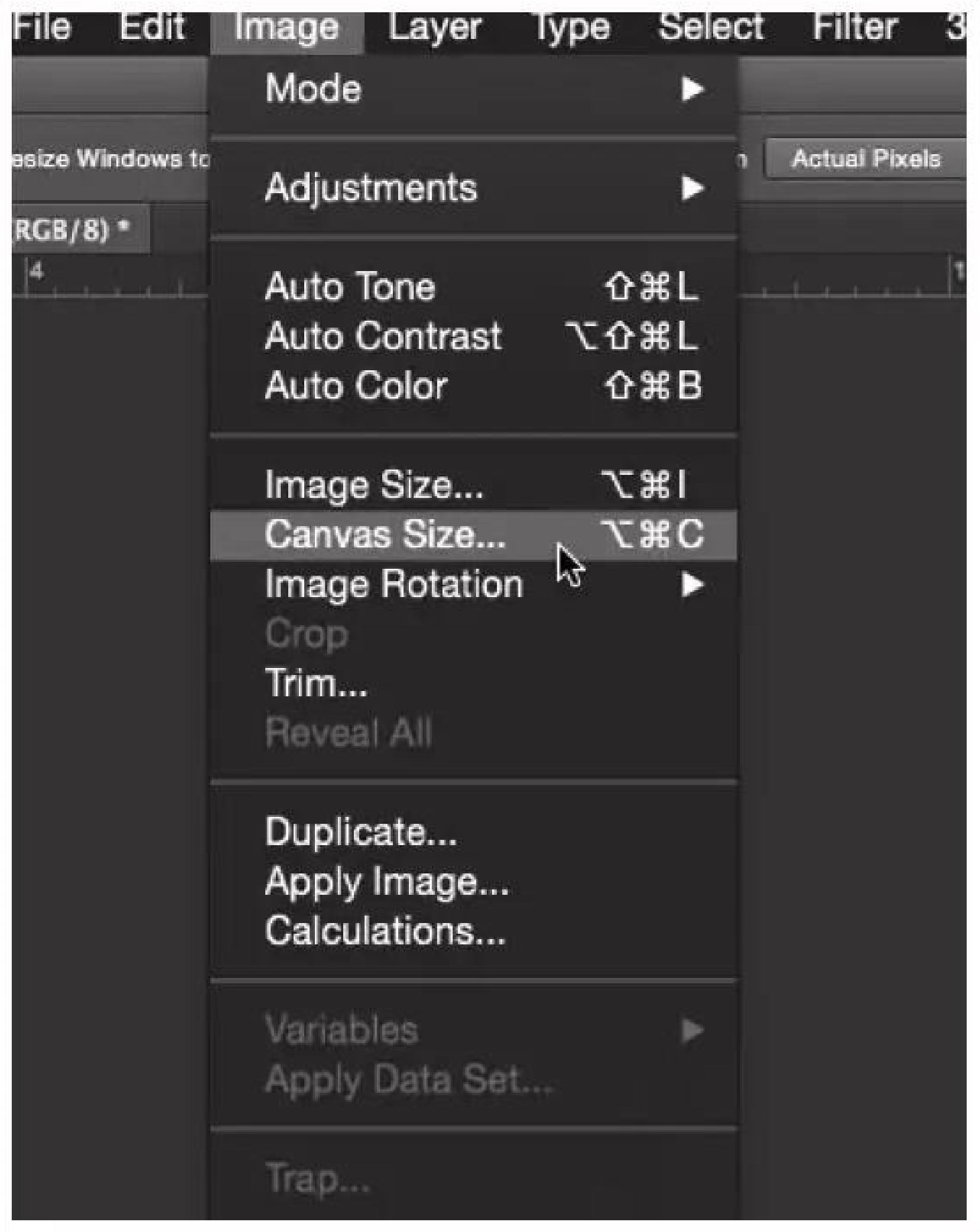


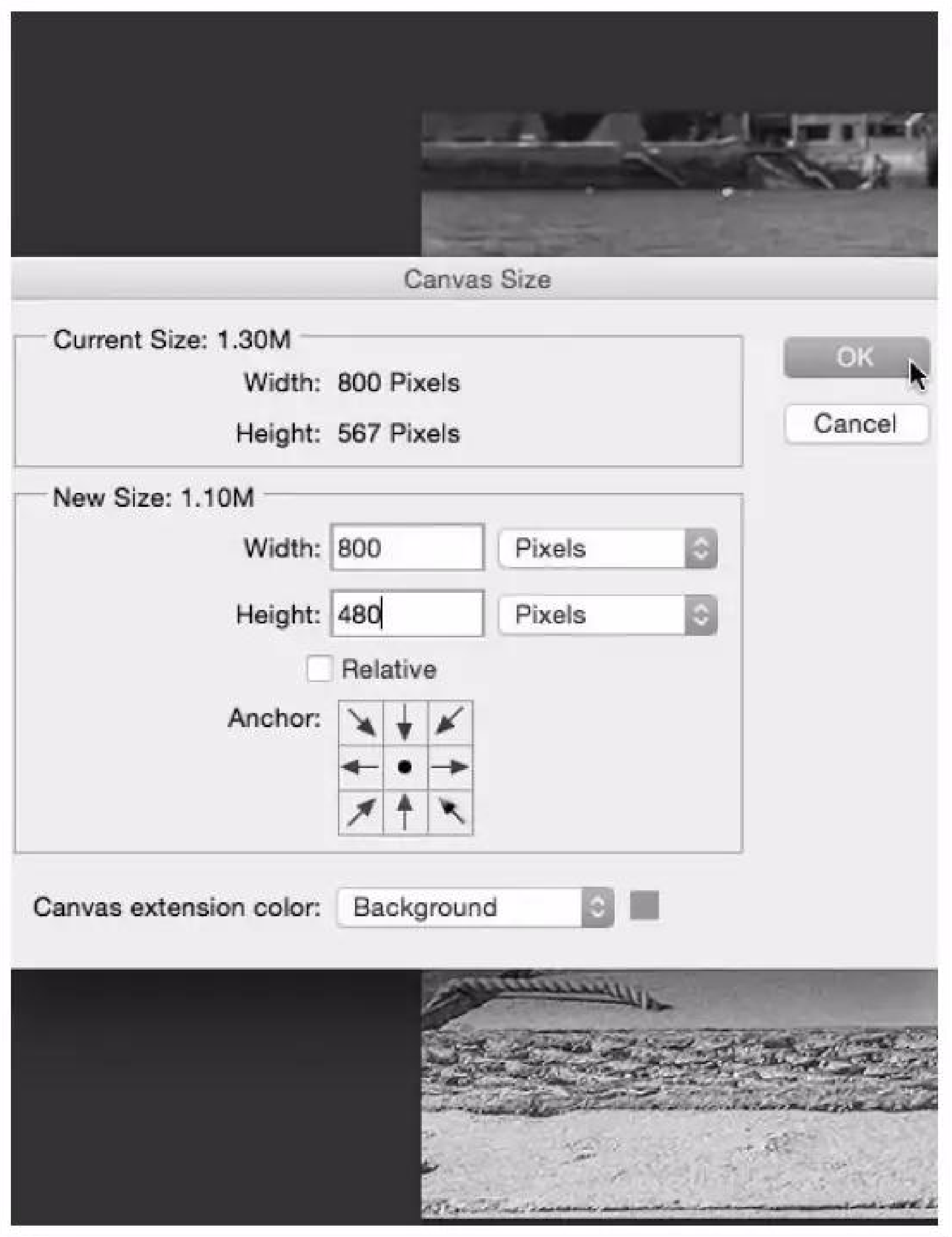
Image Size
OK
Cancel
Auto...

Pixel Dimensions: 1.30M (was 23.0M)
Width: 800 Pixels
Height: 567 Pixels
Document Size:
Width: 6.77 Centimeters
Height: 4.8 Centimeters
Resolution: 300 Pixels/Inch
☑ Scale Styles
☑ Constrain Proportions
☑ Resample Image:
Bicubic Sharper (best for reduction)

05 In the Pixel Dimensions panel, enter the width that you want your image to appear. A width of 800 pixels would be ideal. The height will change automatically to keep the aspect ratio the same. Press OK to resize the picture.

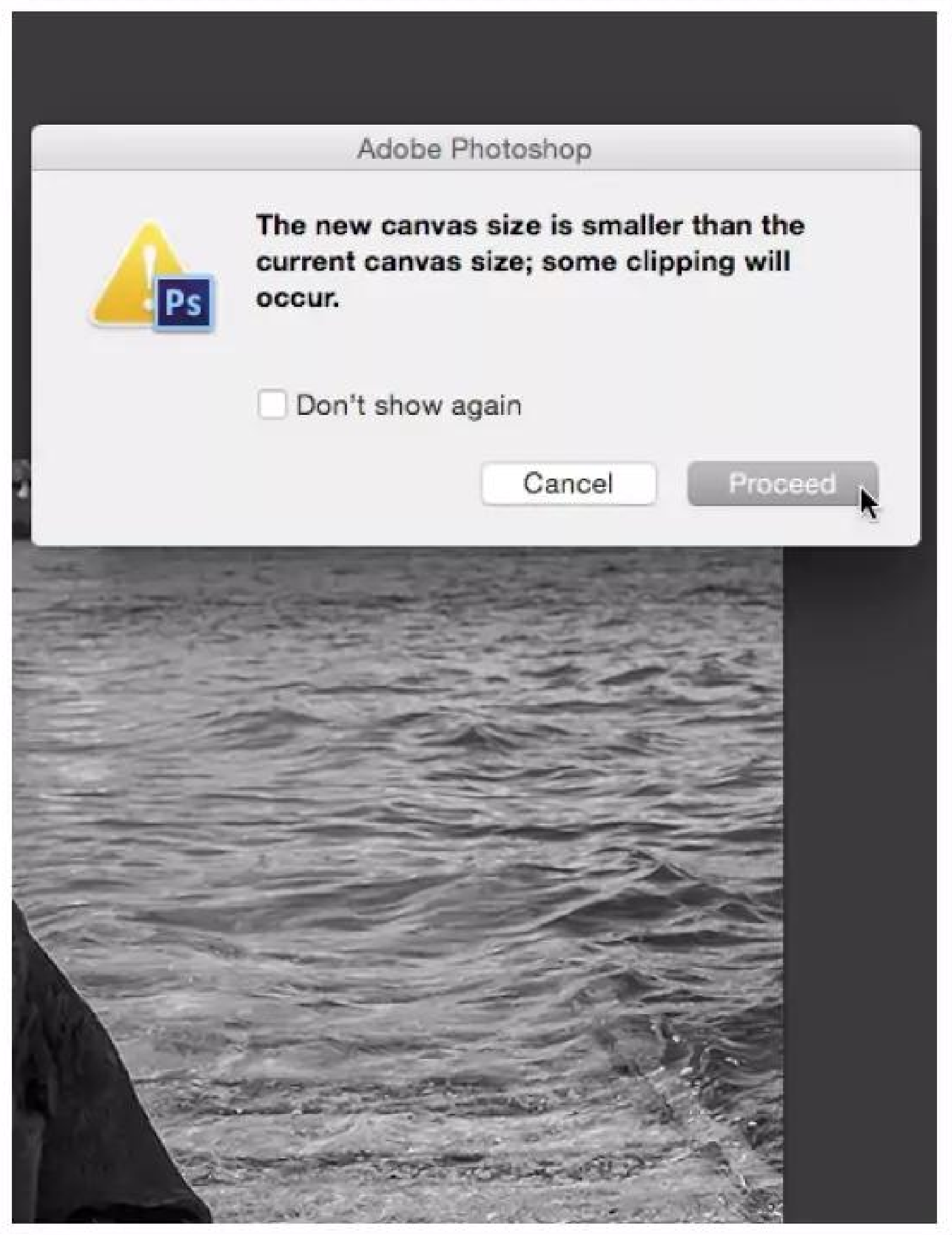

File
Edit
Image
Layer
Type
Select
Filter
Actual Pixels
RGB/8) *
Mode
Adjustments
Auto Tone ⇧⌘L
Auto Contrast ⌥⇧⌘L
Auto Color ⇧⌘B
Image Size... ⌥⌘I
Canvas Size... ⌥⌘C
Image Rotation
Crop
Trim...
Reveal All
Duplicate...
Apply Image...
Calculations...
Variables
Apply Data Set...
Trap...

06 Next, go back to the Image menu, but this time choose Canvas Size, or use the keyboard shortcut Cmd + Alt + C.


Canvas Size
OK
Cancel

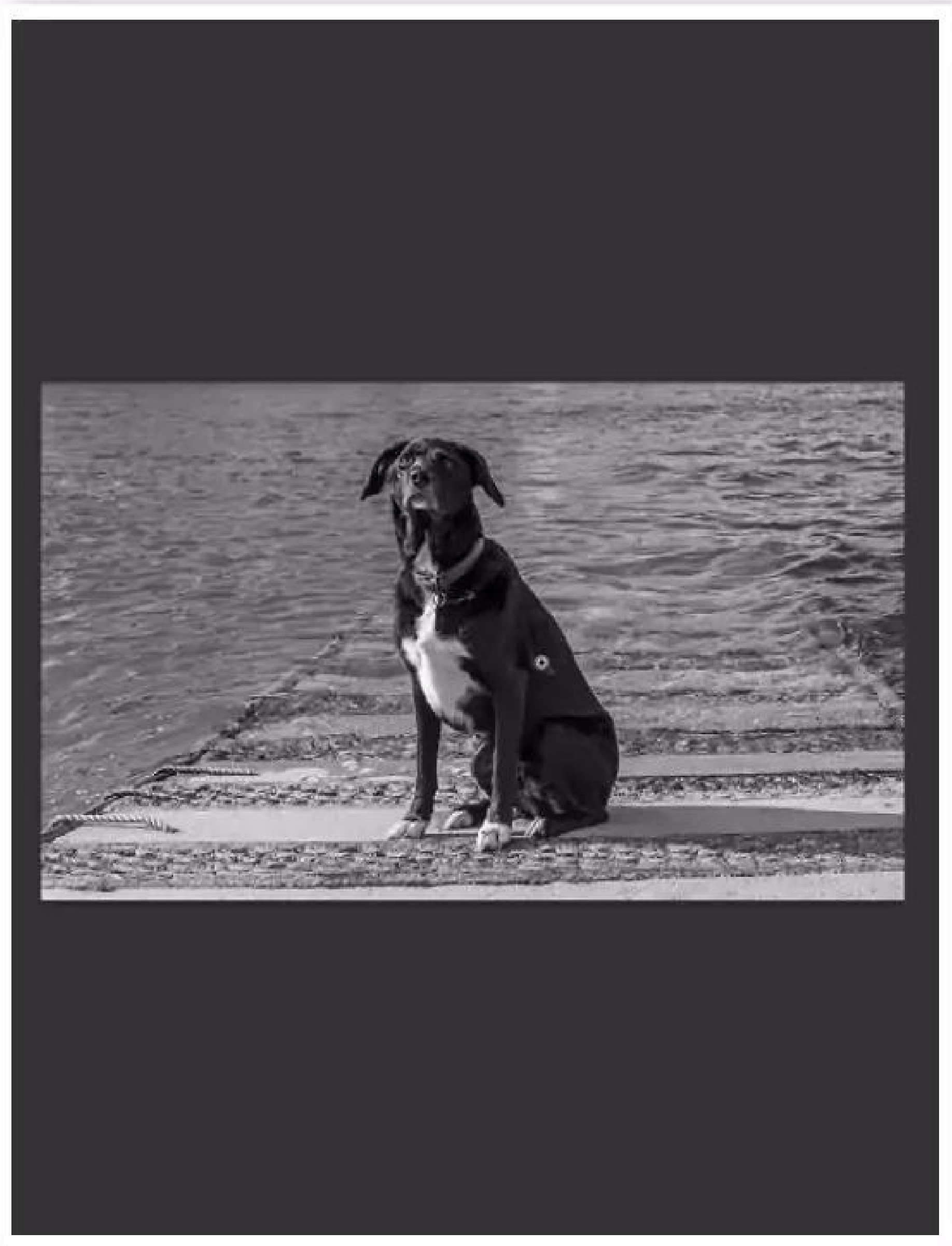
Current Size: 1.30M
Width: 800 Pixels
Height: 567 Pixels
New Size: 1.10M
Width: 800 Pixels
Height: 480 Pixels
☐ Relative
Anchor:
Canvas extension color: Background

07 In the lower window put in a height of 480 pixels. If your main subject is not in the centre of the frame, you can alter the anchor point by clicking on the arrows surrounding the box below. Click OK to perform the resize.


Adobe Photoshop
Cancel
Proceed

The new canvas size is smaller than the current canvas size; some clipping will occur.
☐ Don't show again

08 Because you are making the height of your image smaller, you will be warned that you are clipping the image to a smaller size, as this is what we want, you can click on Proceed.



09 Now we've resized the image to 800 x 480, a common size for display on many mobile devices, and ideal for uploading to a website or sending via email.

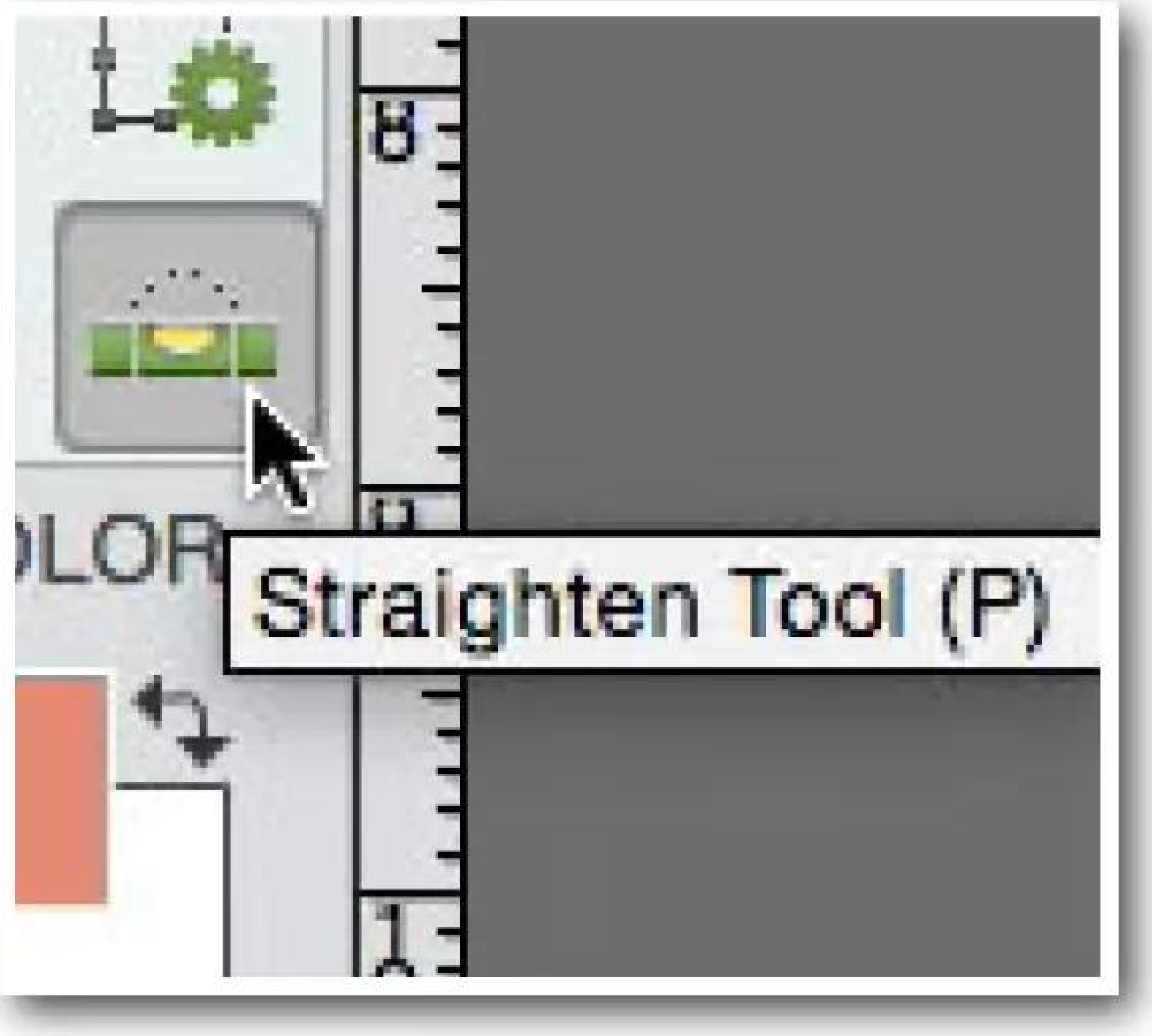
Straightening and rotating

GETTING YOUR SHOTS BACK ON AN EVEN KEEL

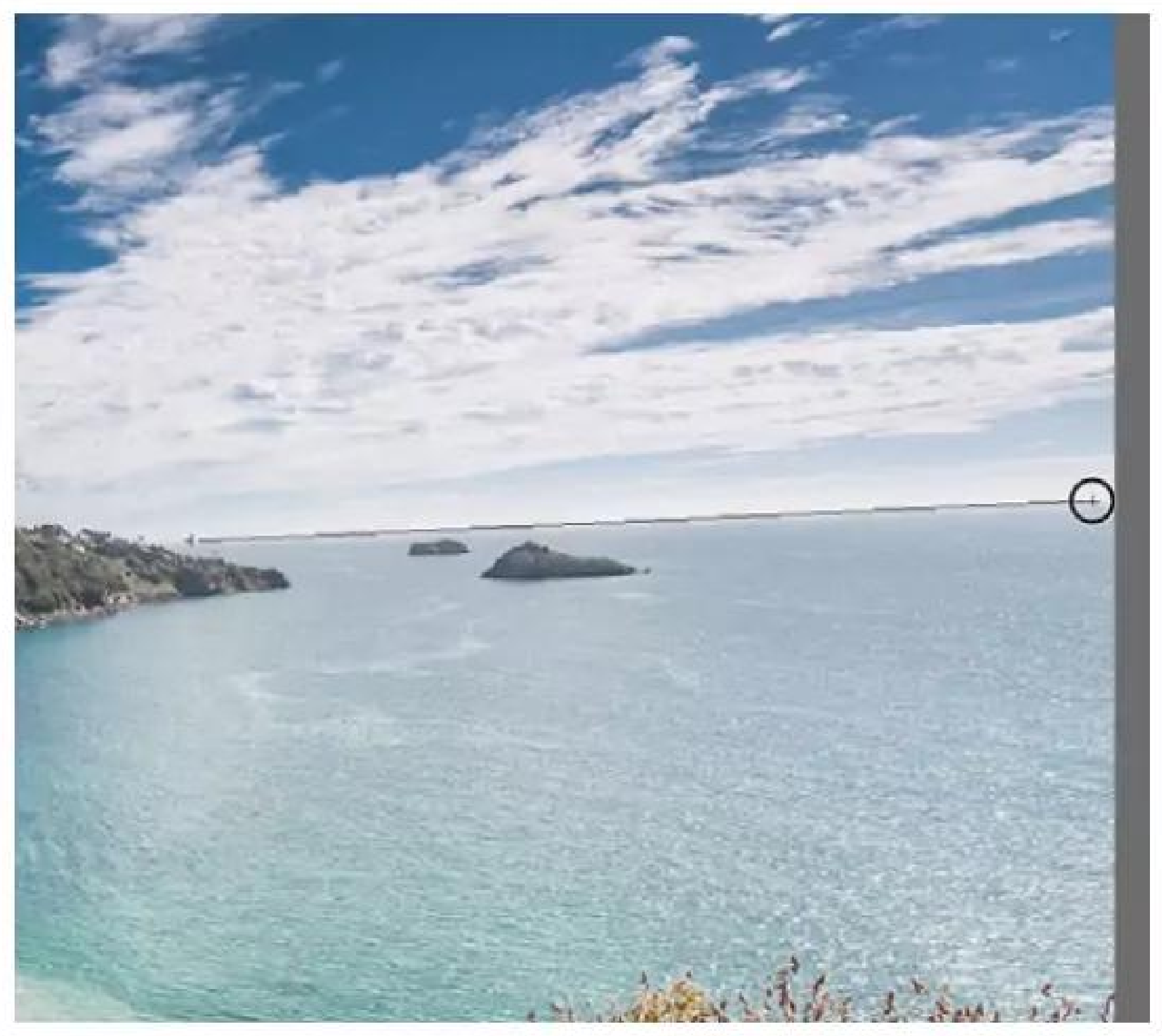
When you're shooting landscapes or architecture, or even when just taking snapshots of your family on holiday, if you don't keep your camera level you're going to end up with a sloping horizon or buildings that look like they're leaning over. Unless you're holidaying in Pisa this is something you want to avoid, but accidents will happen.

Fortunately it's possible to correct tilted shots using Photoshop Elements by rotating and cropping the image. It's very easy to rotate an image in Photoshop Elements, to bring the horizon back to the straight and level, and to stop buildings looking like they're about to topple over. In fact it's such a common operation that the program provides several different ways to perform it. Which method you choose depends on the particular photo you want to straighten.

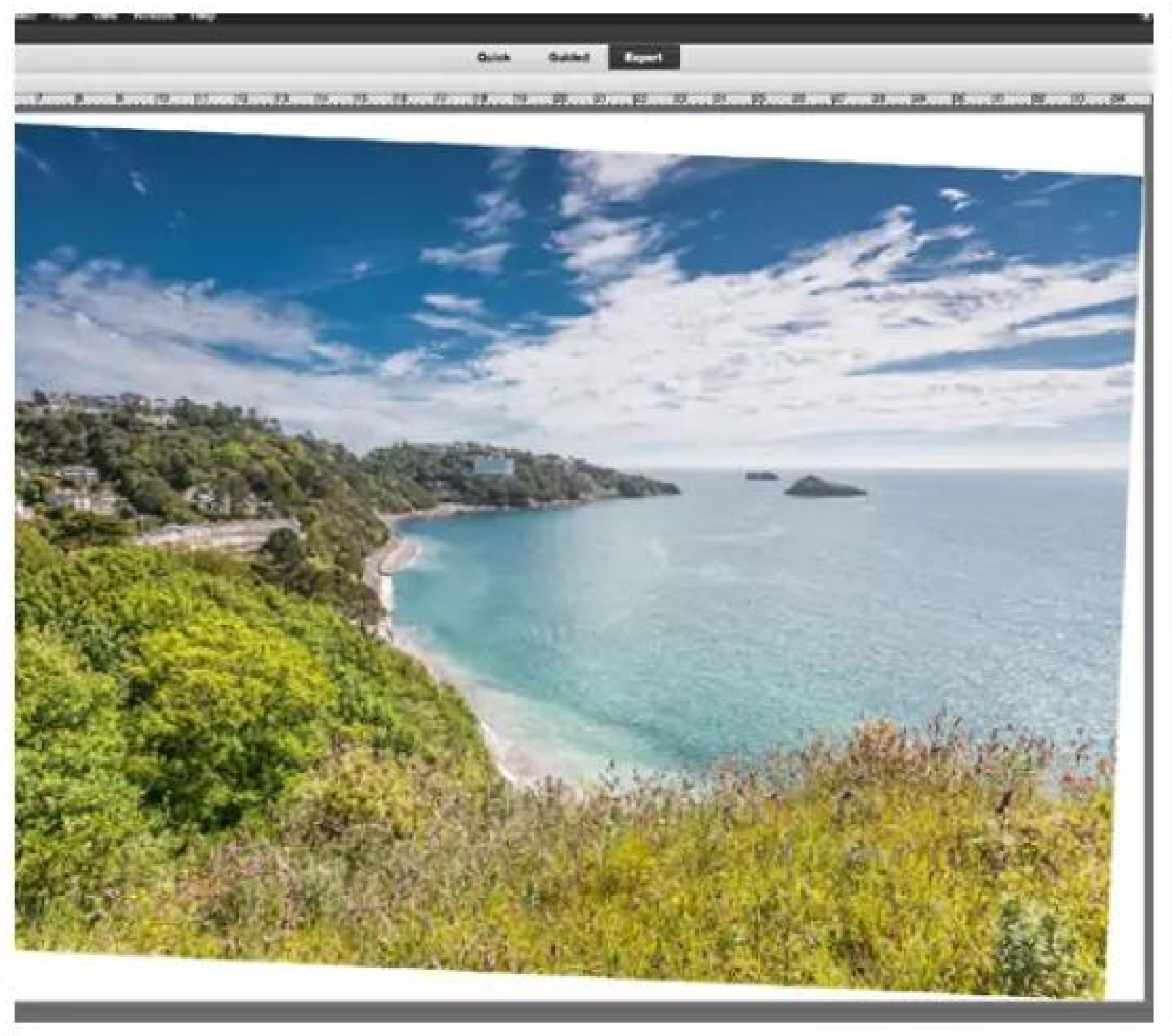
AFTER
BEFORE



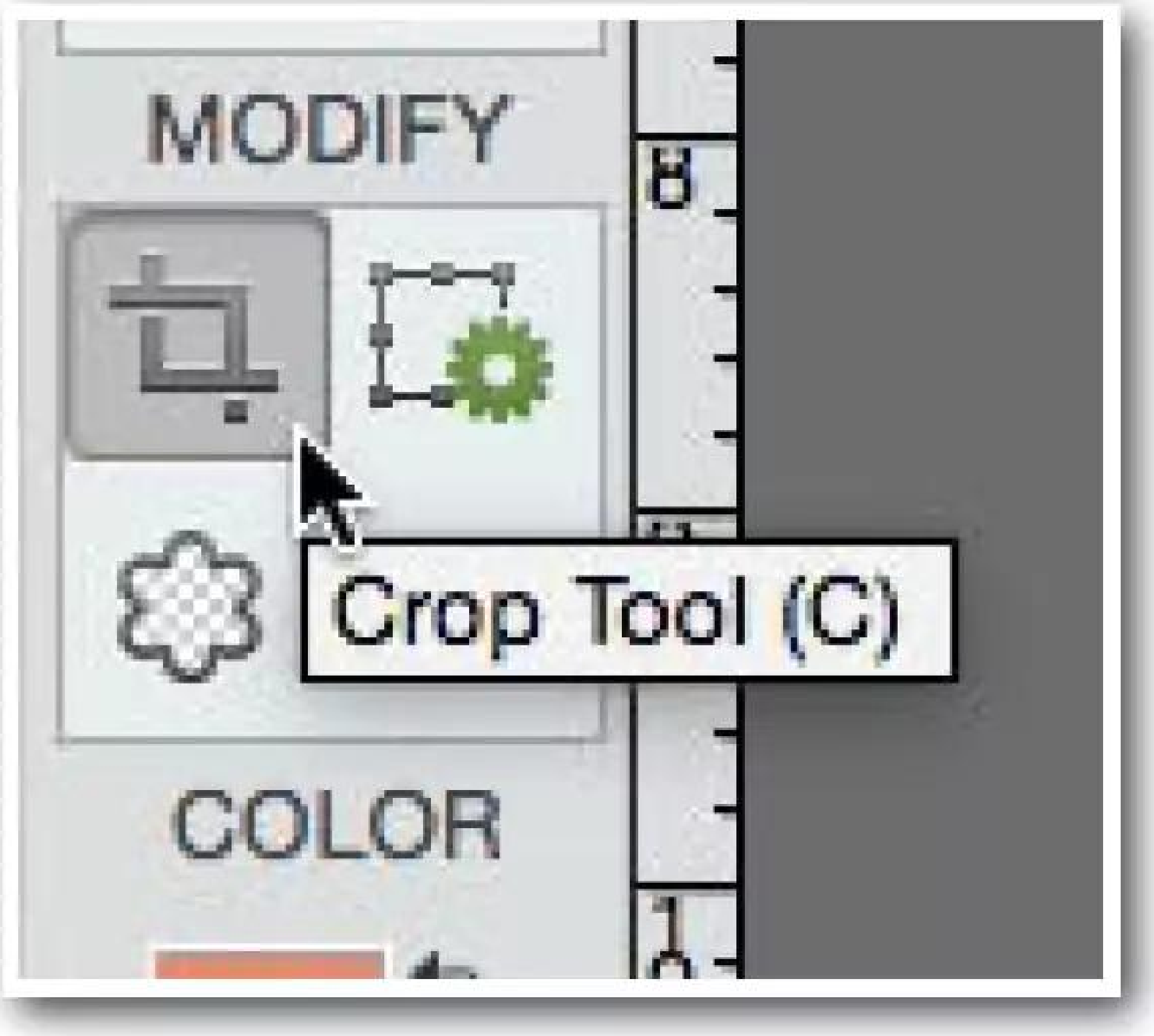
01 Elements includes a Straighten tool specifically designed for correcting horizontal and vertical lines. You'll find it about halfway down in the Modify tool palette; its icon looks like a little spirit level. The keyboard shortcut for this tool is P.



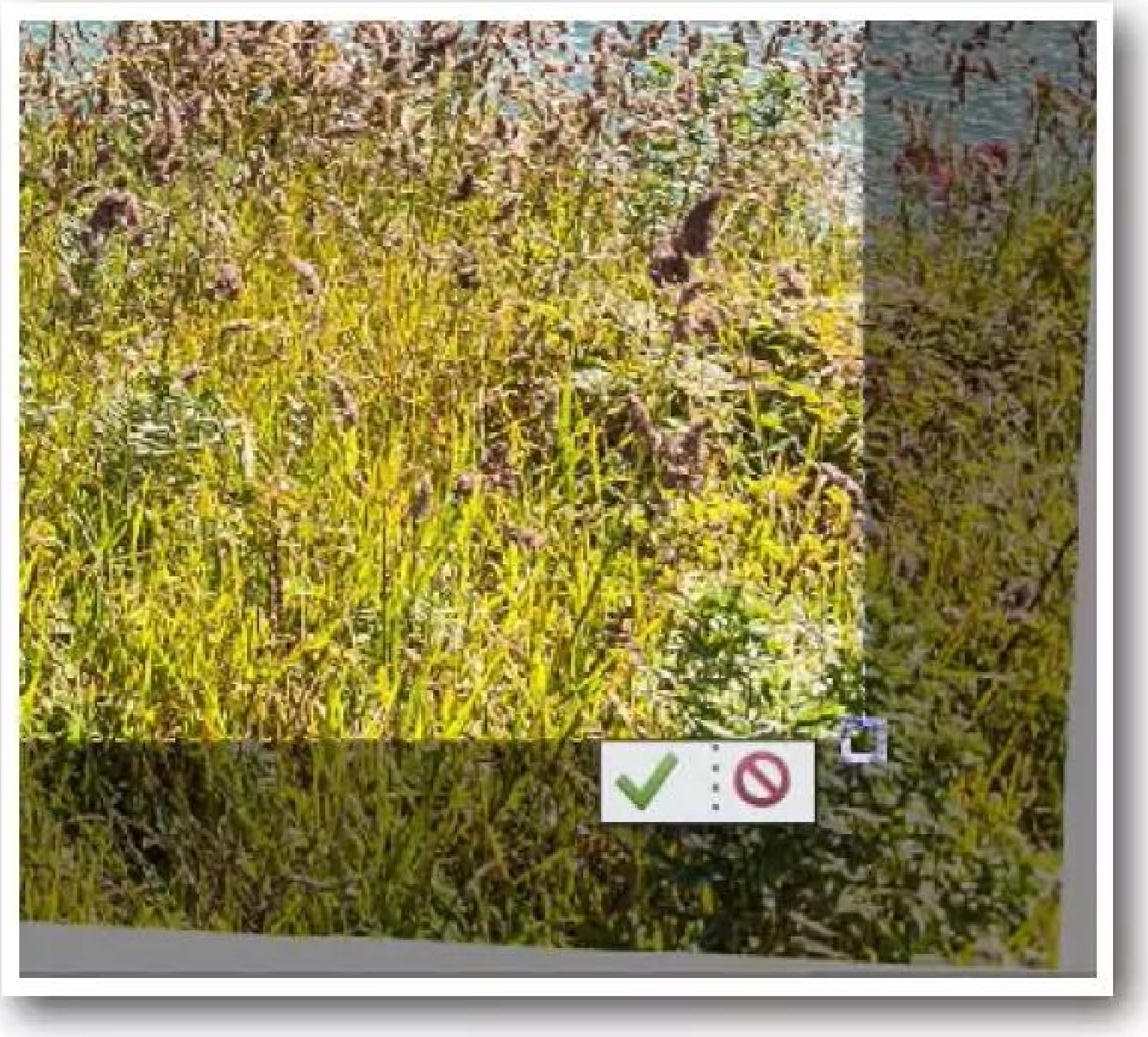
02 Select the Straighten tool from the tool palette, and your cursor will turn into a small cross-hairs. Position it at one end of the horizon, then click and drag a line along the horizon.



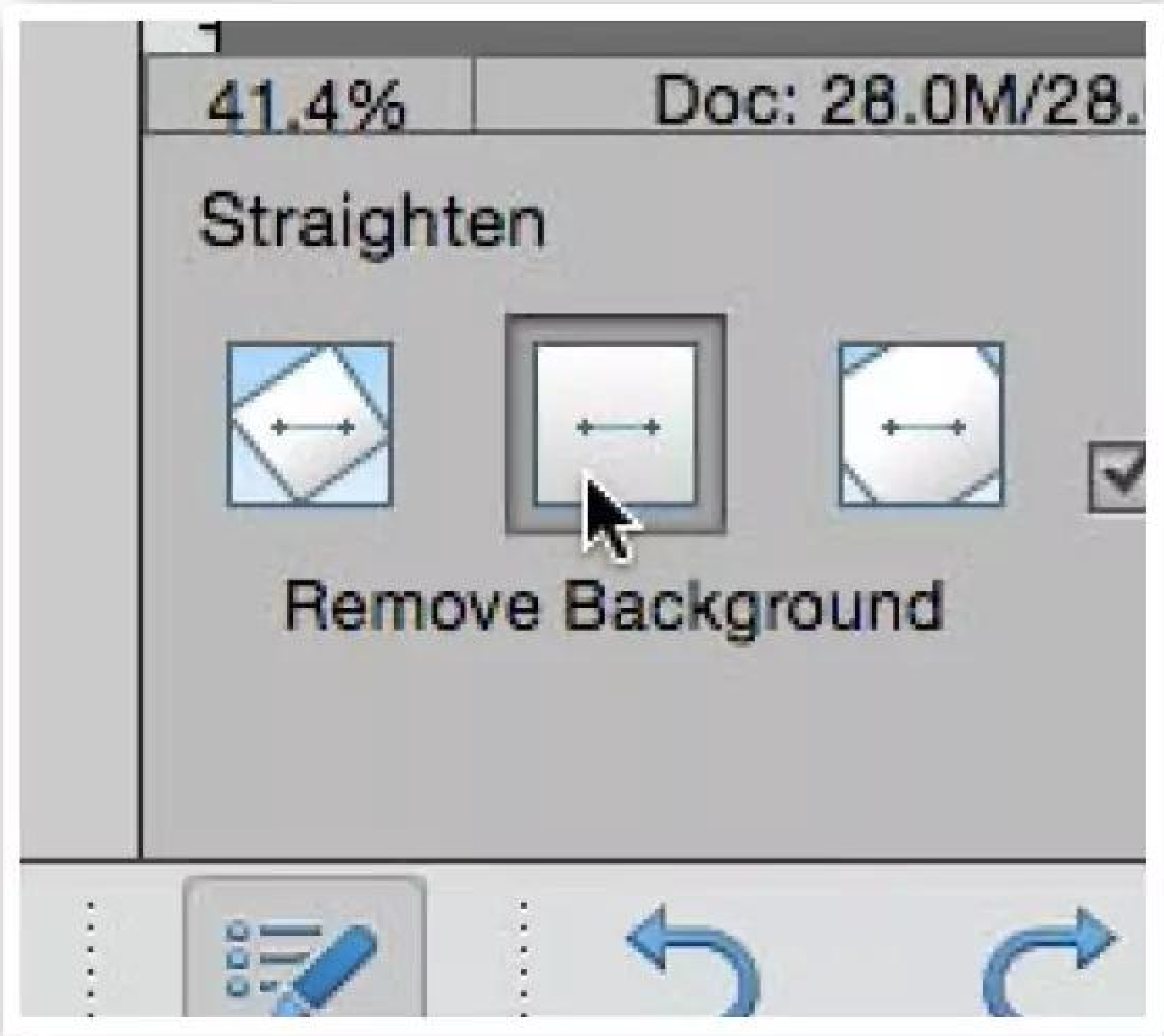
03 Although the horizon is now level, you'll see that there are now triangular white areas around the image which will need to be removed. The usual way to do this is to crop the image so that they are no longer visible. This means losing some of the image around the edges.


MODIFY
Crop Tool (C)
COLOR

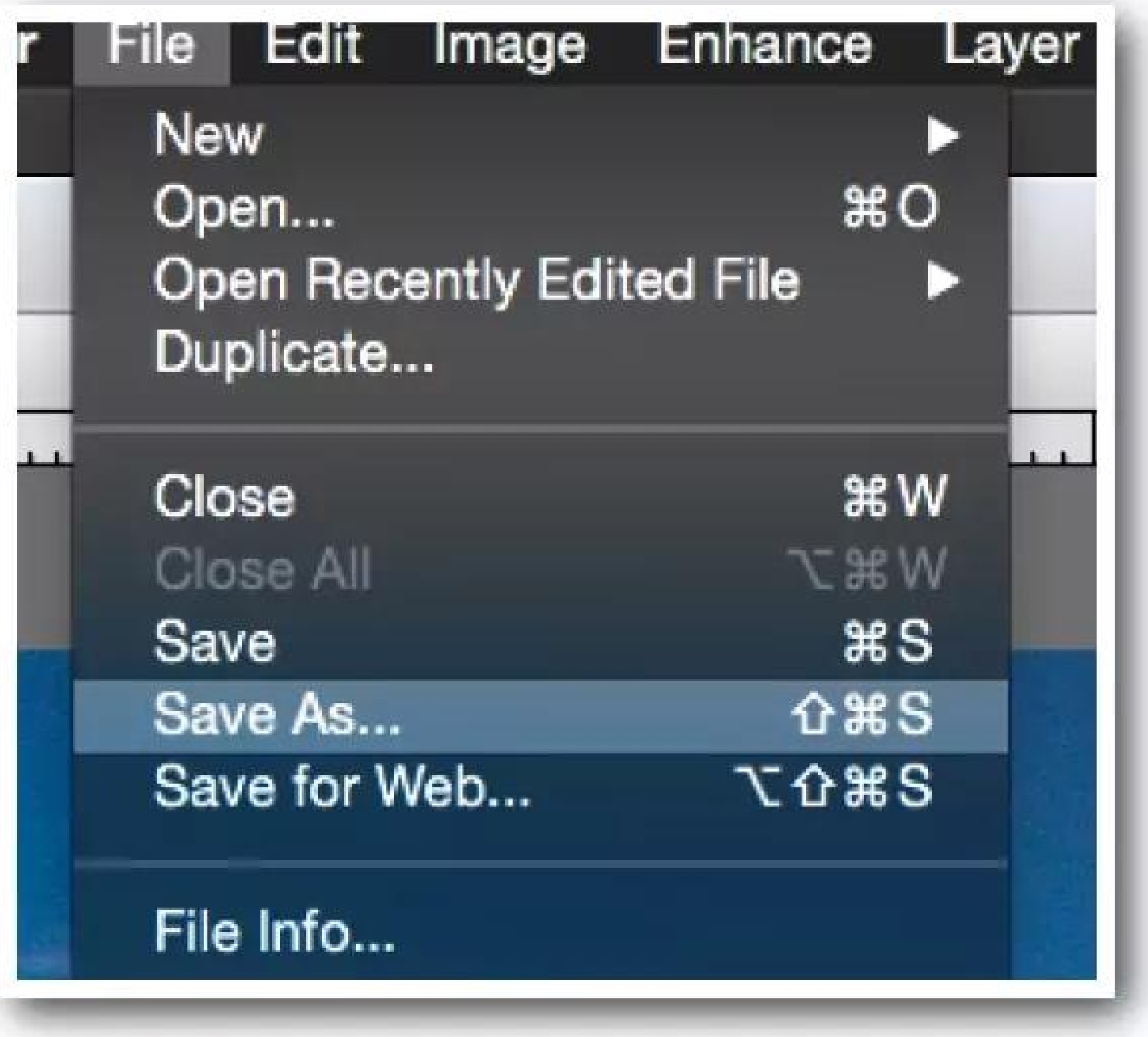
04 To crop the image, you'll be astonished to learn that we'll use the Crop tool. You'll find this in the Modify palette, the same as the Straighten tool. The Crop tool is very simple. Starting near any corner, click and drag a box towards the opposite corner.



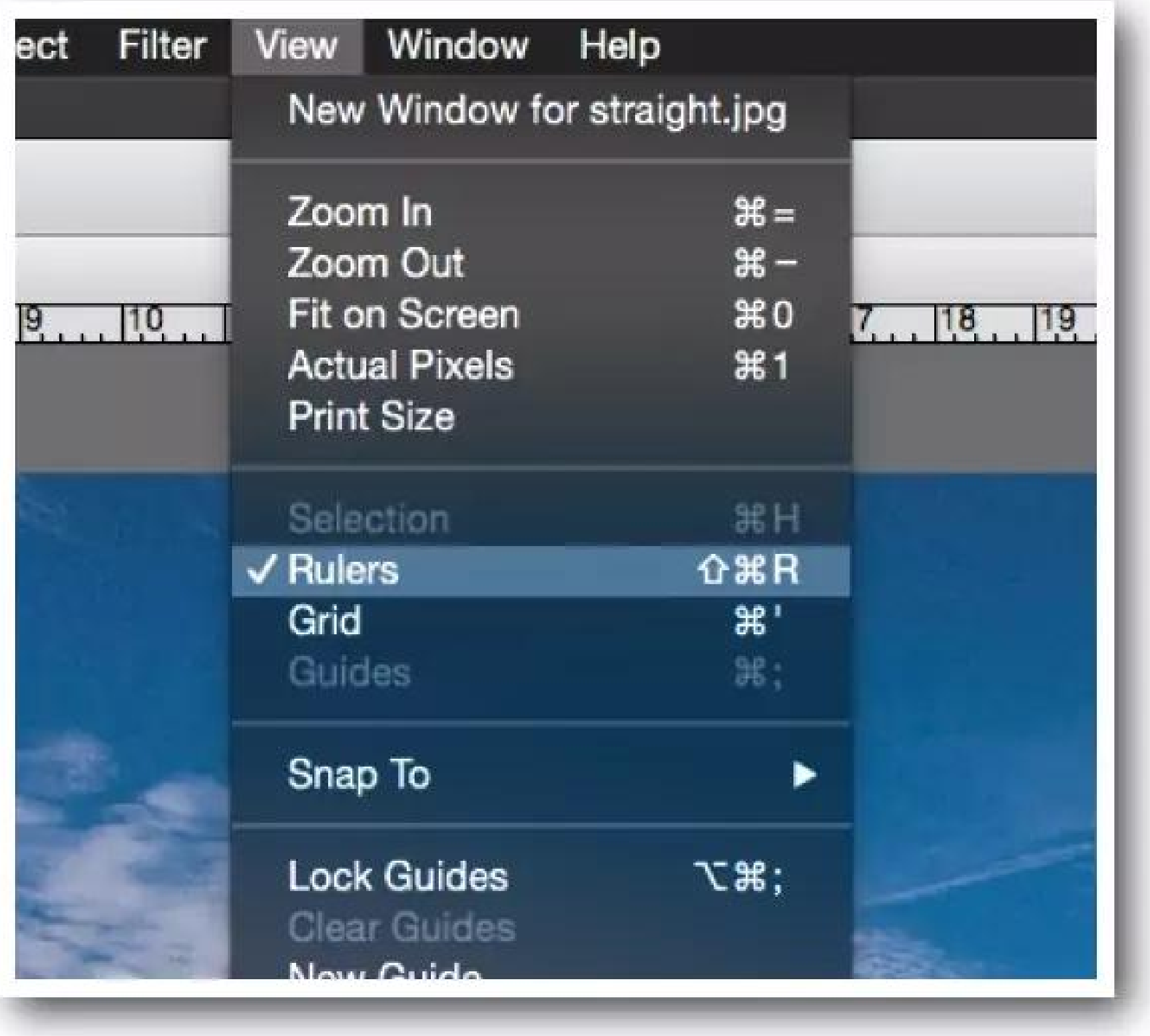
05 You can use the grab-handles in the middle of each side to resize the box, and zoom in to get it as close as possible to the edges of the image, so that you're wasting as few pixels as possible. When you're happy with the position of the box, hit Enter to perform the crop.


41.4%
Doc: 28.0M/28.
Straighten
Remove Background

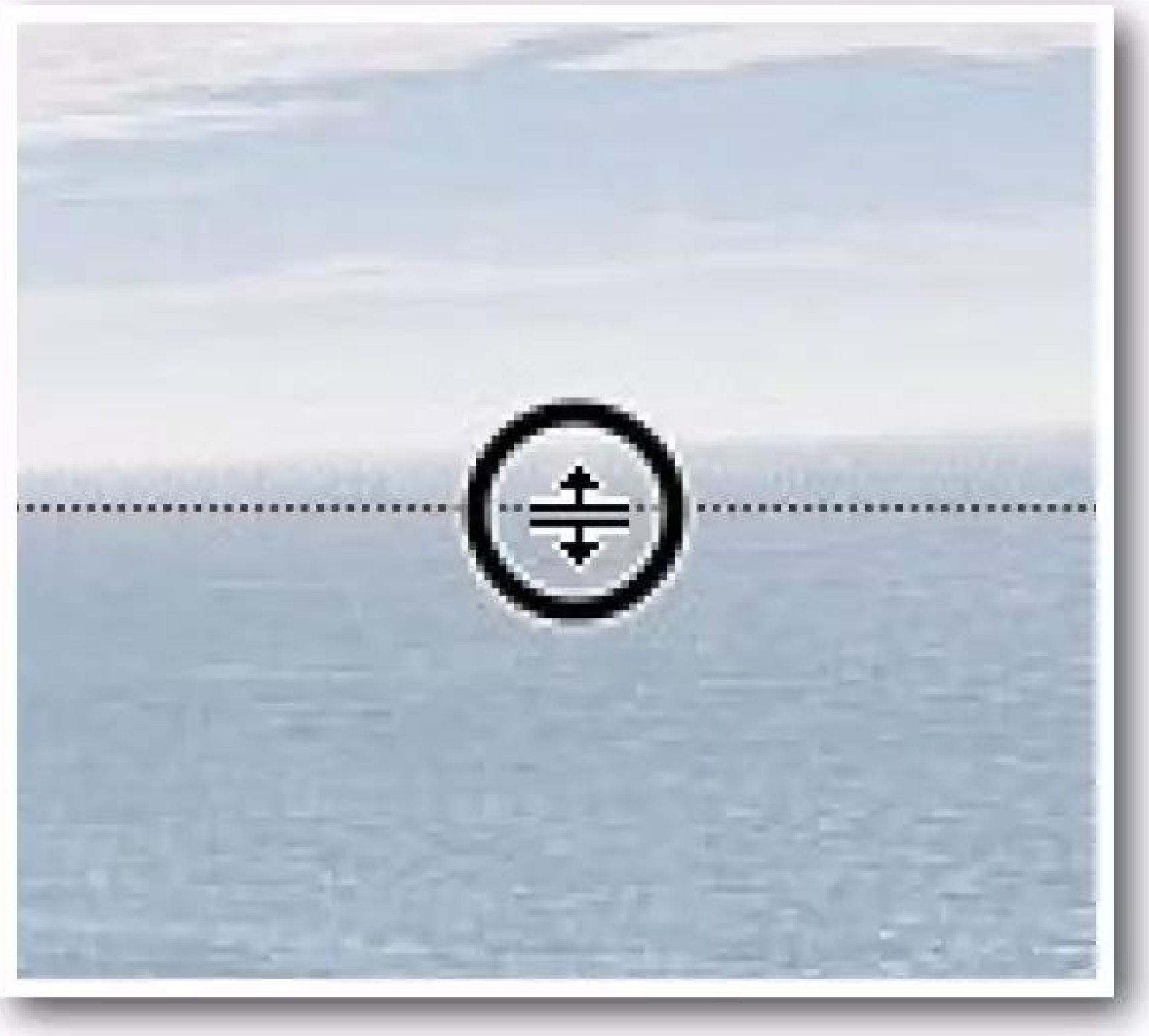
06 Optionally you can have Elements do this step automatically, by selecting Crop to Remove Background from the menu in the tool options in the bottom left of the workspace.


File
Edit
Image
Enhance
Layer
New
Open... ⌘O
Open Recently Edited File
Duplicate...
Close ⌘W
Close All ⌥⌘W
Save ⌘S
Save As... ⇧⌘S
Save for Web... ⌥⇧⌘S
File Info...

07 Once you've done this, save the corrected version of your picture under a new name or number using the Save As… option so that you still have the original file.


Filter
View
Window
Help
New Window for straight.jpg
Zoom In ⌘=
Zoom Out ⌘−
Fit on Screen ⌘0
Actual Pixels ⌘1
Print Size
Selection ⌘H
✓ Rulers ⇧⌘R
Grid ⌘'
Guides ⌘;
Snap To
Lock Guides ⌥⌘;
Clear Guides

08 Another way to rotate an image is by using the Transform function. This is useful if you want to rotate an image freely by hand, or rotate just one layer in a multi-layer composition. You need to have Rulers visible. You'll find this option in the View menu.



09 Next, click on the horizontal ruler and drag downward. This will place a guide line on your picture. Position this line so it is close to the horizon. Don't worry, it won't show up on the finished image.

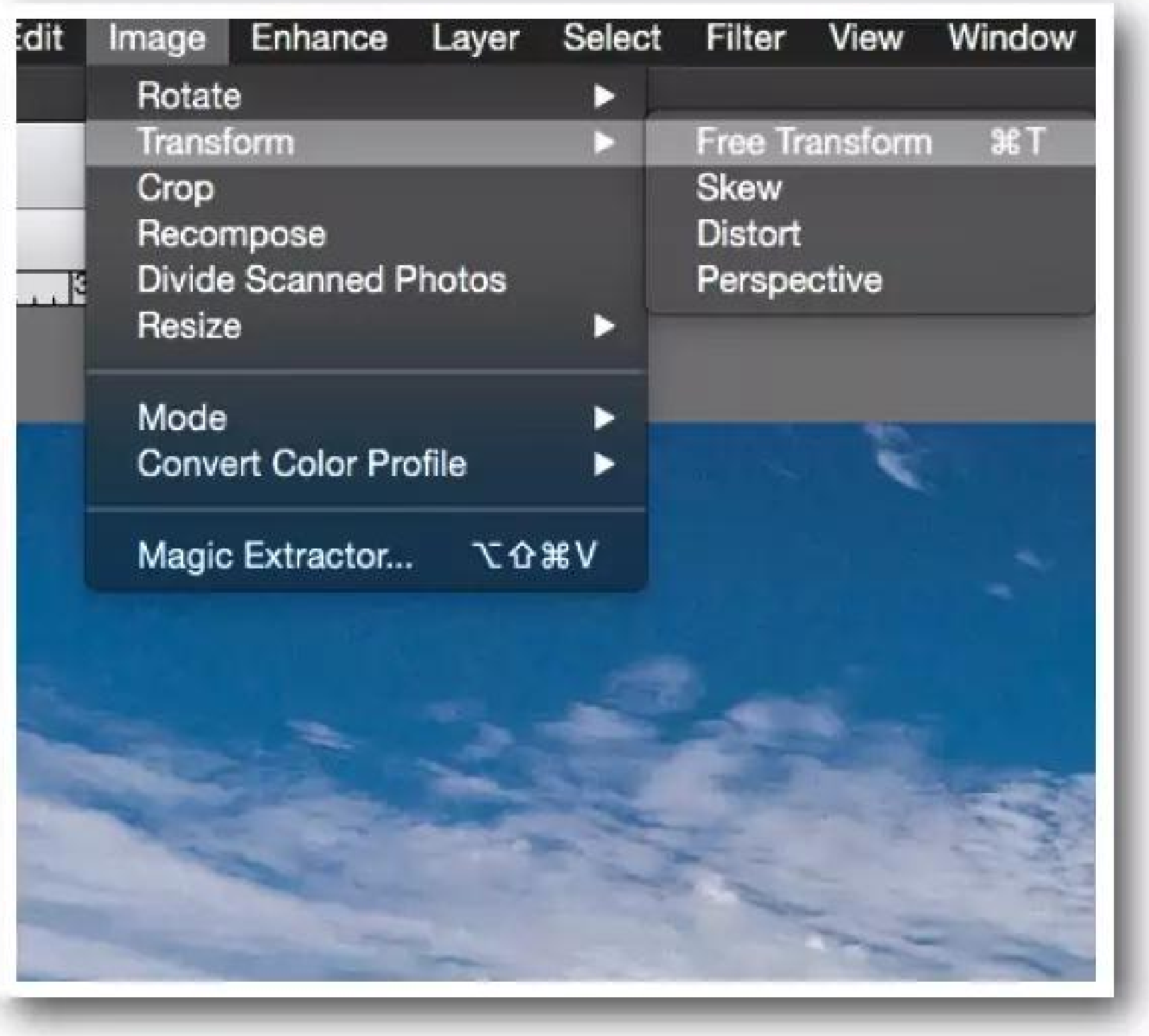
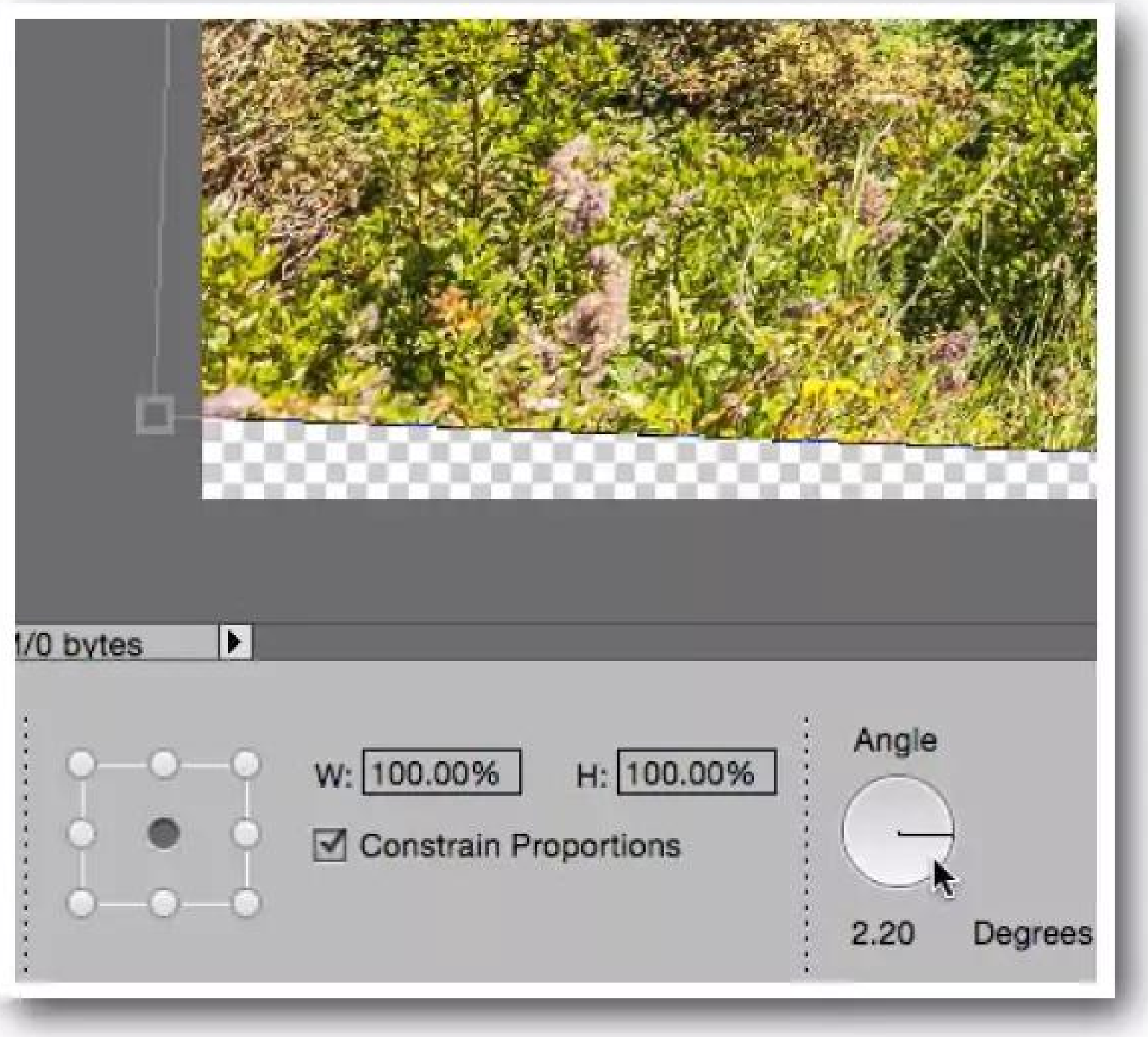
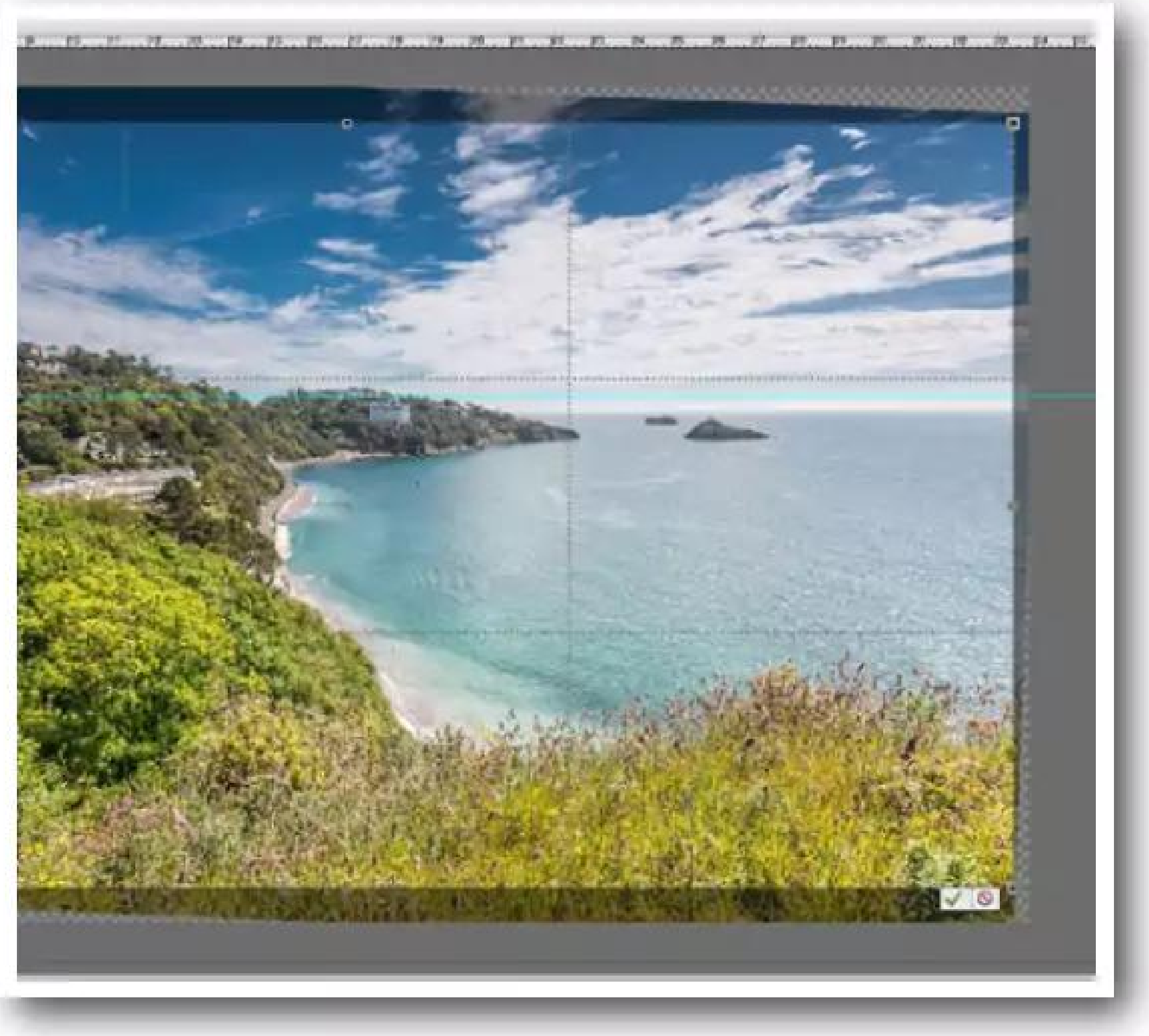


Image
Enhance
Layer
Select
Filter
View
Window
Rotate
Transform
Crop
Recompose
Divide Scanned Photos
Resize
Mode
Convert Color Profile
Magic Extractor... ⌥⇧⌘V
Free Transform ⌘T
Skew
Distort
Perspective

10 You'll find the Free Transform option in the Image menu, under Transform.


W: 100.00%
H: 100.00%
☑ Constrain Proportions
Angle
2.20
Degrees

11 A line appears around your image, with grab handles at the corners; at the bottom of the screen are three input boxes, two for width and height, and the third for rotation. Input an angle of rotation directly in this box, or click and drag near one of the corner handles to rotate the image manually.



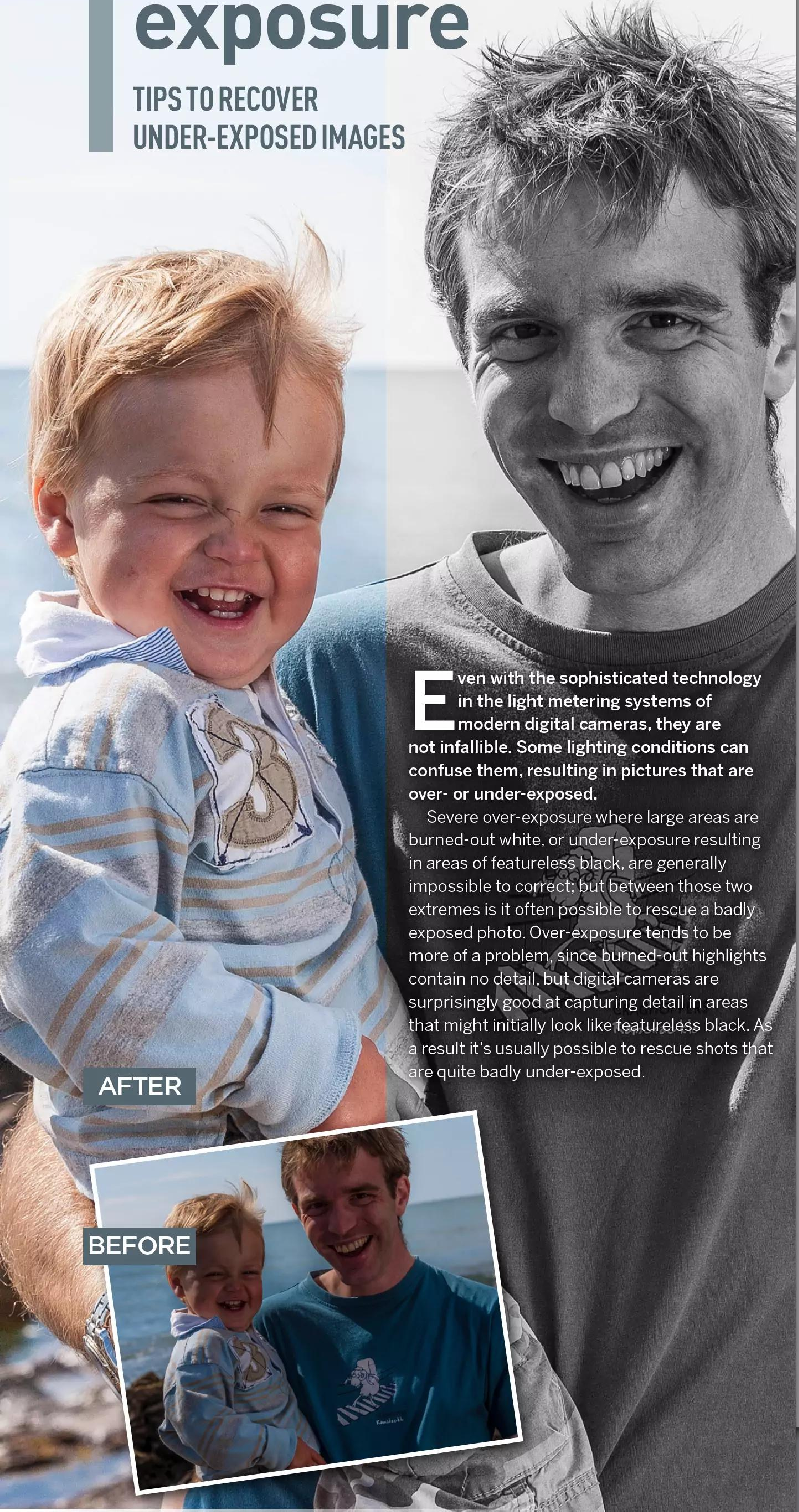
12 Drag it until the horizon lines up with your horizontal guide, then press Enter to confirm the transformation. Crop off the white edges and save the image under a new name and you are done.

Adjusting exposure

TIPS TO RECOVER UNDER-EXPOSED IMAGES

Even with the sophisticated technology in the light metering systems of modern digital cameras, they are not infallible. Some lighting conditions can confuse them, resulting in pictures that are over- or under-exposed.

Severe over-exposure where large areas are burned-out white, or under-exposure resulting in areas of featureless black, are generally impossible to correct; but between those two extremes is it often possible to rescue a badly exposed photo. Over-exposure tends to be more of a problem, since burned-out highlights contain no detail, but digital cameras are surprisingly good at capturing detail in areas that might initially look like featureless black. As a result it's usually possible to rescue shots that are quite badly under-exposed.


AFTER
BEFORE

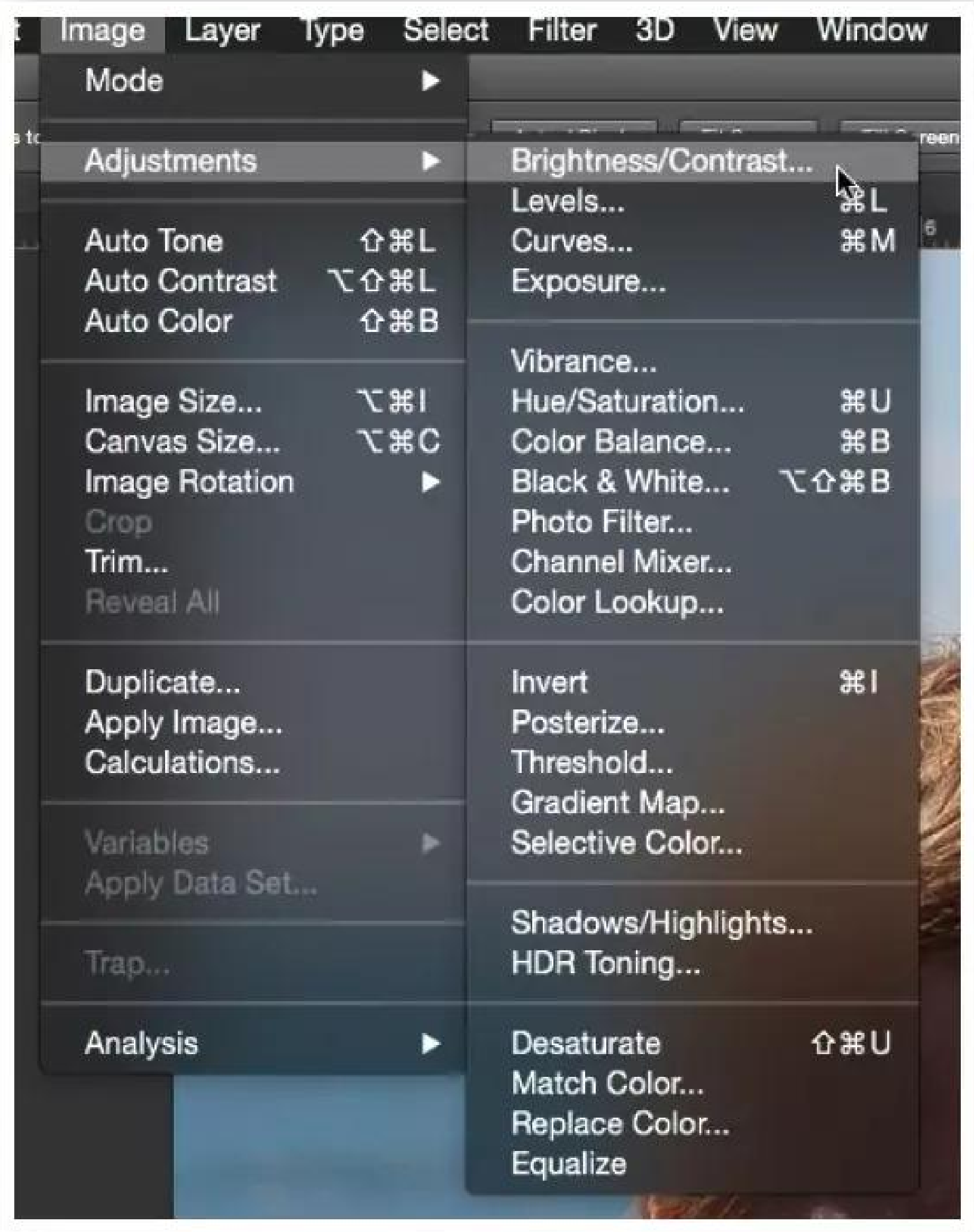
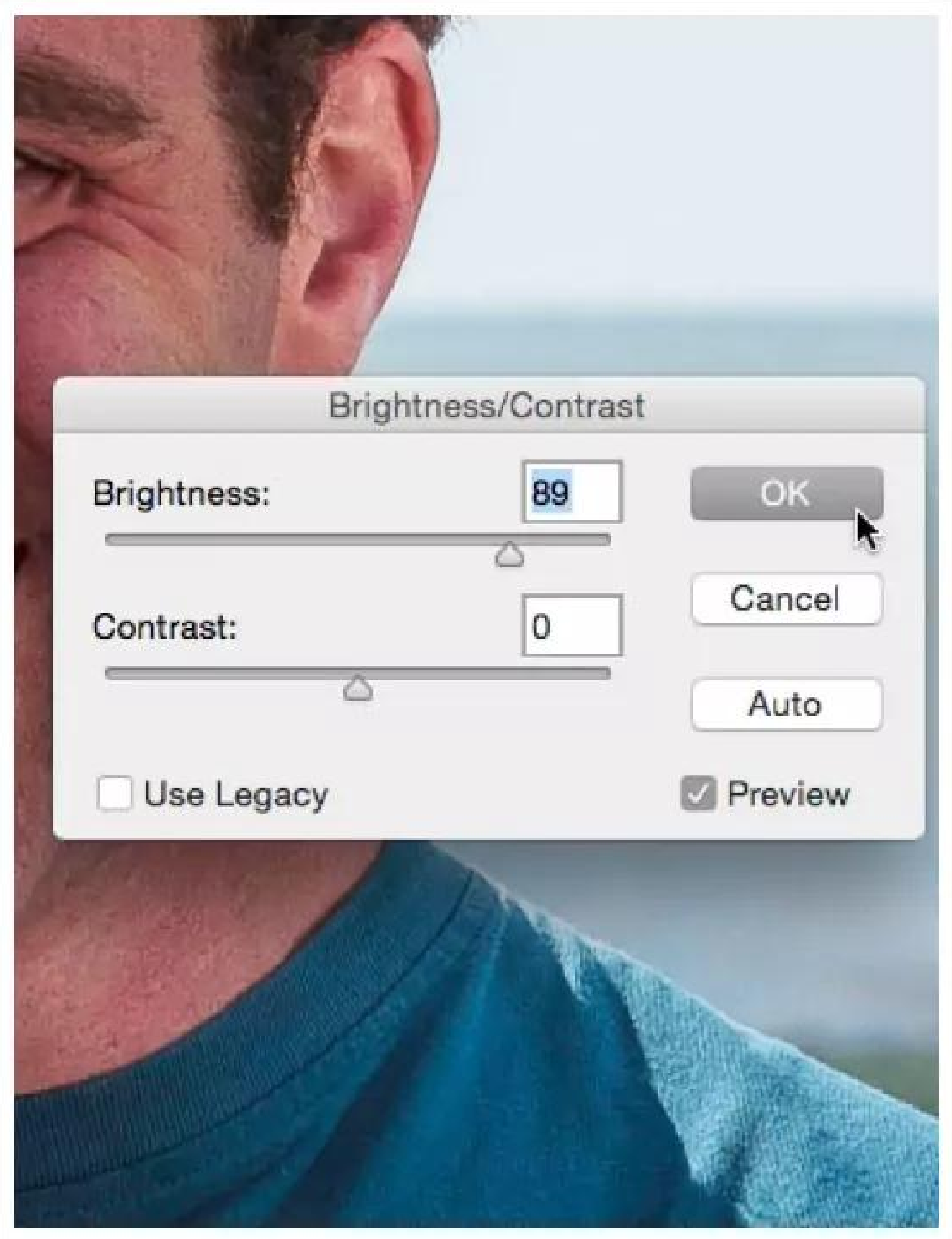


Image
Layer
Type
Select
Filter
3D
View
Window
Mode
Adjustments
Auto Tone ⇧⌘L
Auto Contrast ⌥⇧⌘L
Auto Color ⇧⌘B
Image Size... ⌥⌘I
Canvas Size... ⌥⌘C
Image Rotation
Crop
Trim...
Reveal All
Duplicate...
Apply Image...
Calculations...
Variables
Apply Data Set...
Trap...
Analysis
Brightness/Contrast...
Levels... ⌘L
Curves... ⌘M
Exposure...
Vibrance...
Hue/Saturation... ⌘U
Color Balance... ⌘B
Black & White... ⌥⇧⌘B
Photo Filter...
Channel Mixer...
Color Lookup...
Invert ⌘I
Posterize...
Threshold...
Gradient Map...
Selective Color...
Shadows/Highlights...
HDR Toning...
Desaturate ⇧⌘U
Match Color...
Replace Color...
Equalize

01 The quickest and easiest way to brighten the photo is to simply turn up the brightness. This will work in any editing program, but as we will see it isn't always the best option. In Photoshop it is under Image > Adjustments > Brightness/Contrast.


Brightness/Contrast
OK
Cancel
Auto

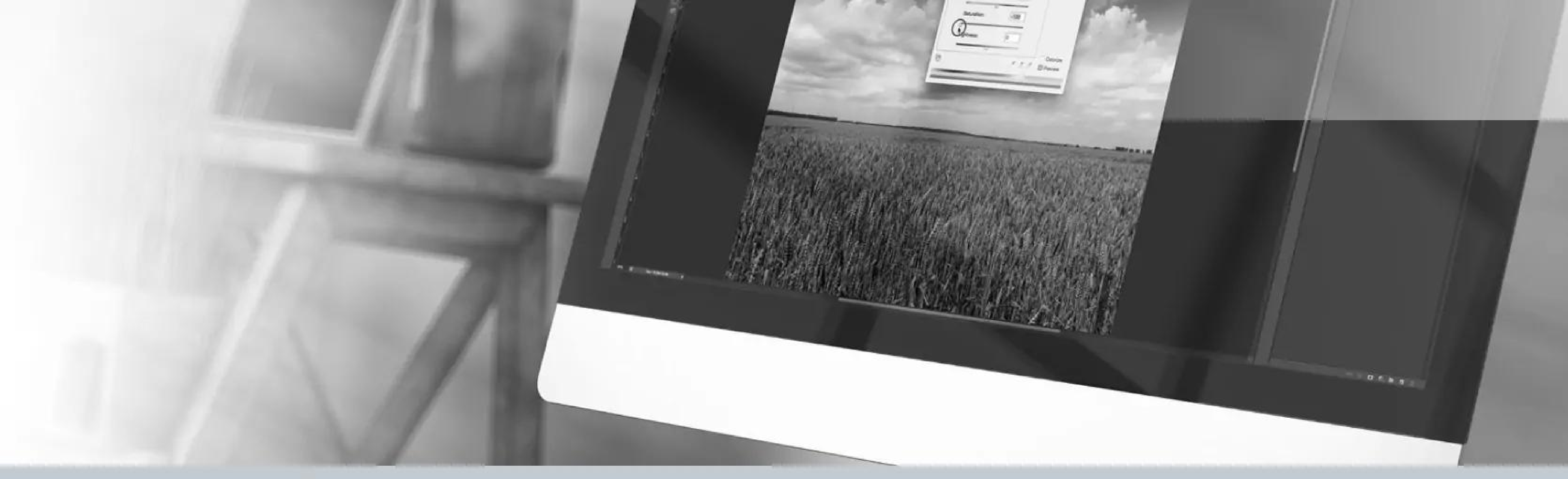
Brightness: 89

Contrast: 0

☐ Use Legacy

☑ Preview

02 Moving the Brightness slider to the right brightens the whole photo, which makes the shadows far too light, so we have to adjust the contrast slider to the right. This produces an approximation of the correct exposure, but the lighter areas have been brightened too much.



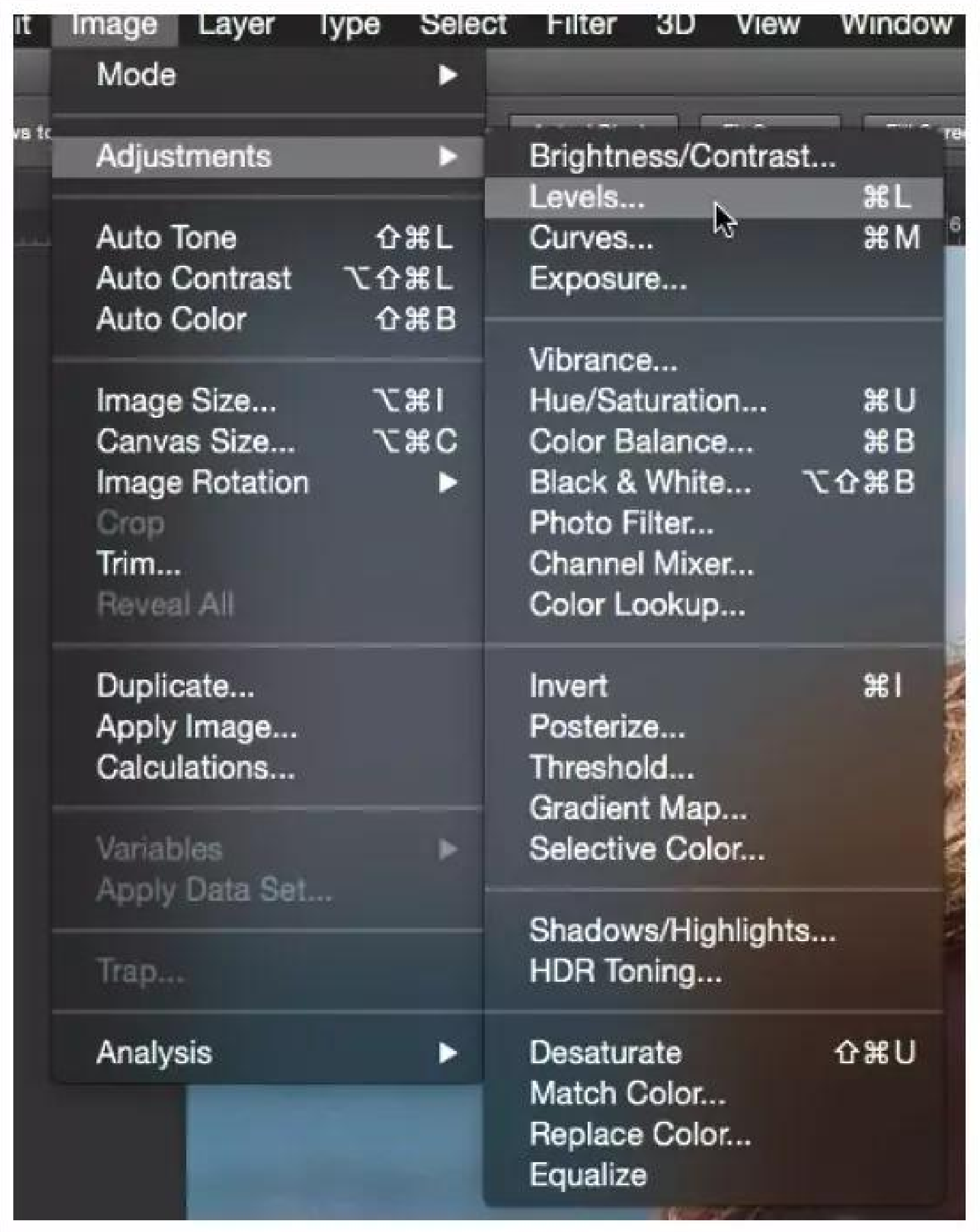
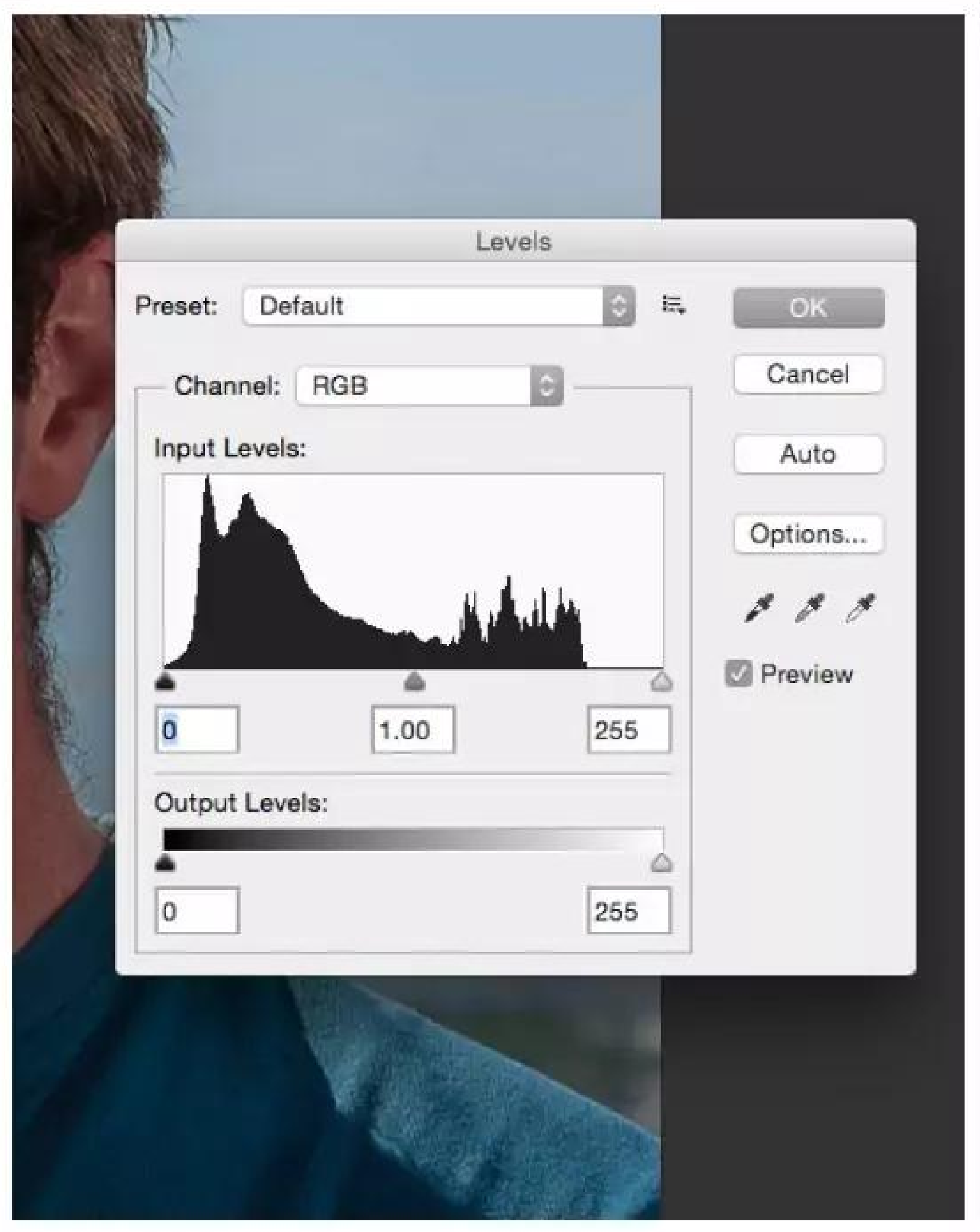
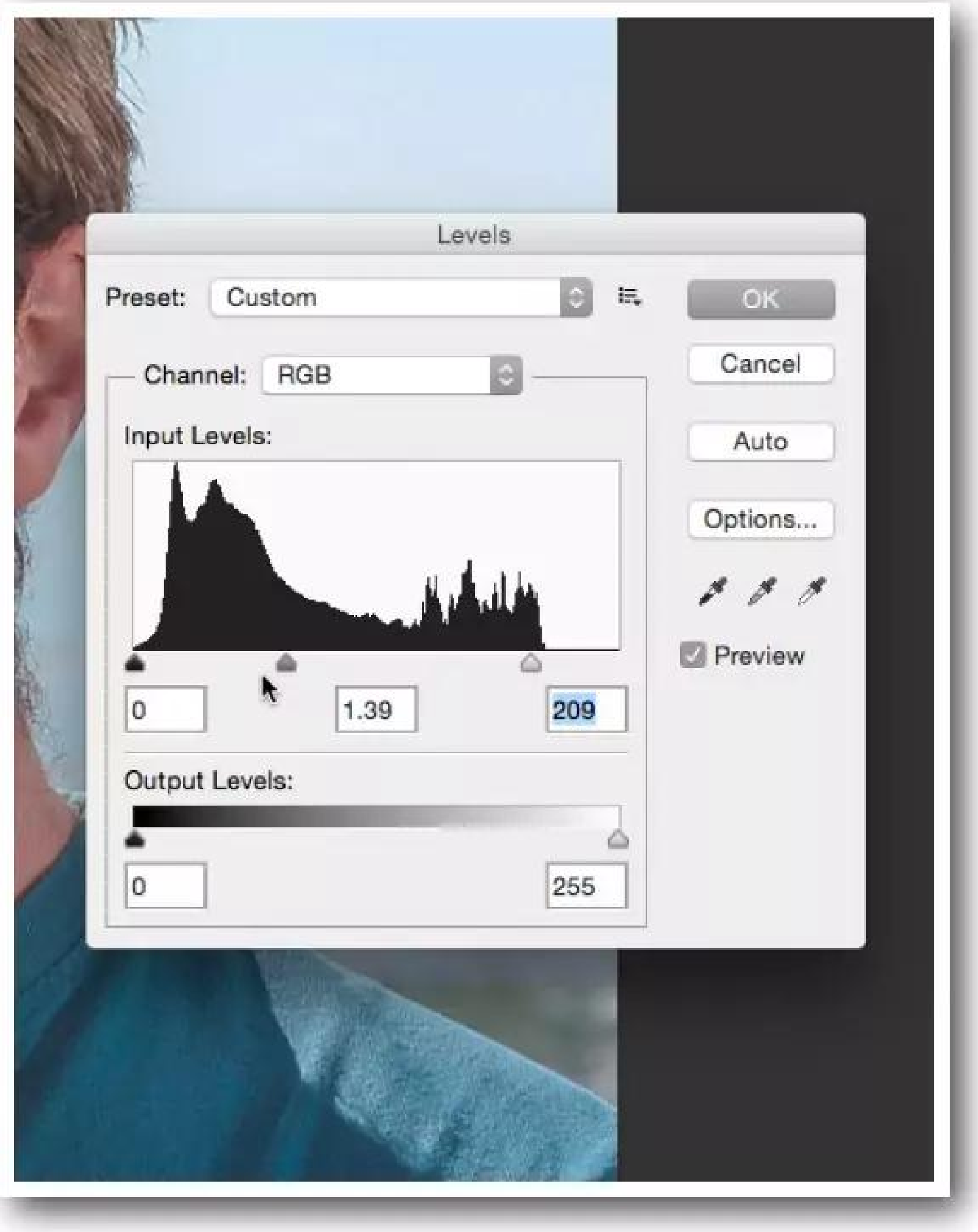


Image
Layer
Type
Select
Filter
3D
View
Window
Mode
Adjustments
Auto Tone ⇧⌘L
Auto Contrast ⌥⇧⌘L
Auto Color ⇧⌘B
Image Size... ⌥⌘I
Canvas Size... ⌥⌘C
Image Rotation
Crop
Trim...
Reveal All
Duplicate...
Apply Image...
Calculations...
Variables
Apply Data Set...
Trap...
Analysis
Brightness/Contrast...
Levels... ⌘L
Curves... ⌘M
Exposure...
Vibrance...
Hue/Saturation... ⌘U
Color Balance... ⌘B
Black & White... ⌥⇧⌘B
Photo Filter...
Channel Mixer...
Color Lookup...
Invert ⌘I
Posterize...
Threshold...
Gradient Map...
Selective Color...
Shadows/Highlights...
HDR Toning...
Desaturate ⇧⌘U
Match Color...
Replace Color...
Equalize

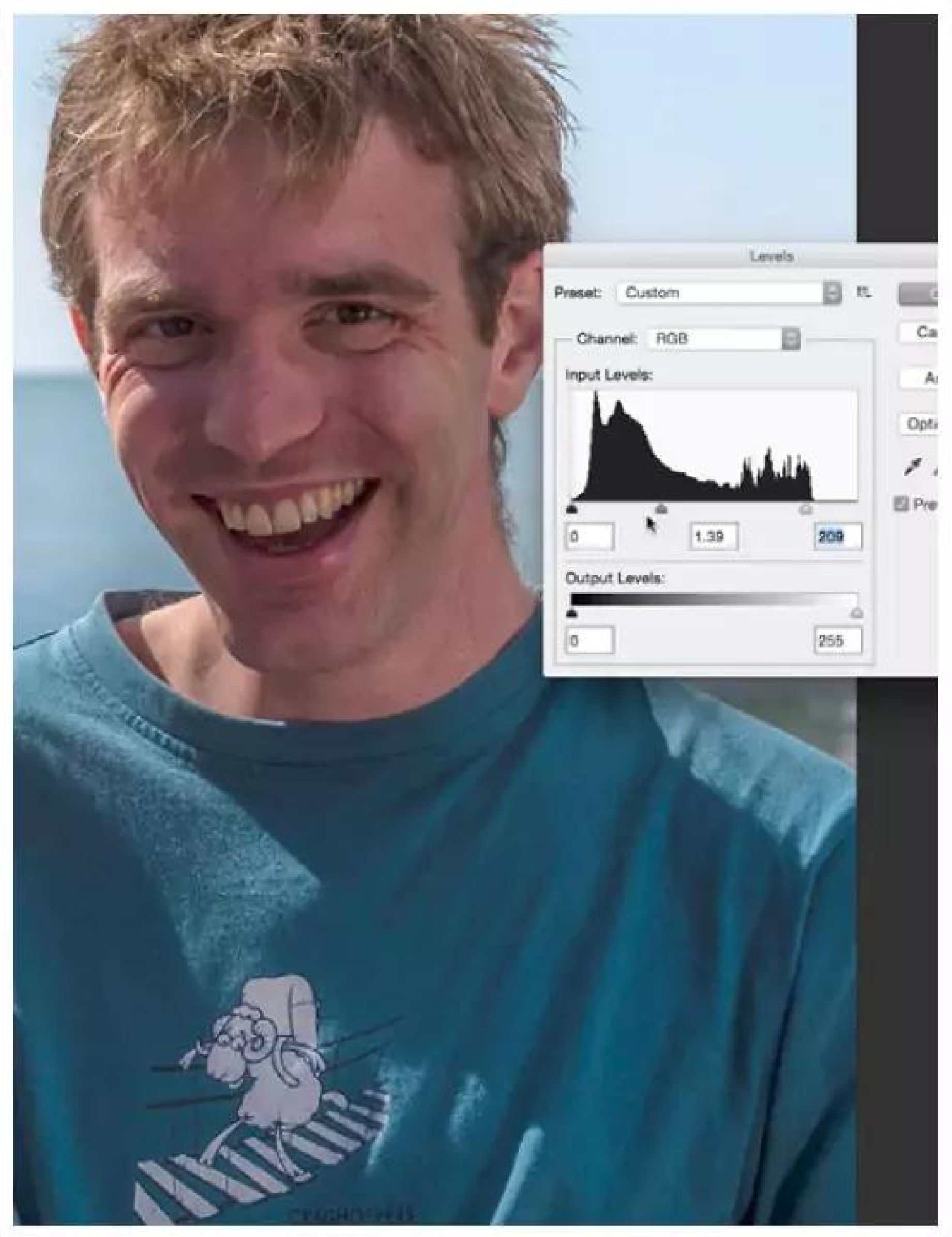
03 There is an alternative method of altering brightness and contrast, but this time with more subtlety and control, by adjusting the levels histogram. You will find this under Image > Adjustments > Levels.


Levels
Preset: Default
Channel: RGB
Input Levels: 0 1.00 255
Output Levels: 0 255
OK
Cancel
Auto
Options...
Preview

04 The levels histogram is a graph showing the proportion of pixels in the image at each colour intensity. The far left-hand end of the graph represents black, and the right-hand end is white, with every tone in between.


Levels
Preset: Custom
Channel: RGB
Input Levels: 0 1.39 209
Output Levels: 0 255
OK
Cancel
Auto
Options...
Preview

05 Our image is all shadow and some highlights, with an even spread in the mid tone range, so we need to brighten some of those shadows into mid-tones. Move the mid-tone point left towards the shadows. This brings out a lot of the detail from the shadow and preserves highlights.



06 It also leaves the deeper shadow areas intact. It is a far better way of adjusting the exposure of a photograph than simply altering the Brightness/Contrast; however, it isn't quite the best way. Adjusting the Levels mid-point is still strictly linear in its adjustment.

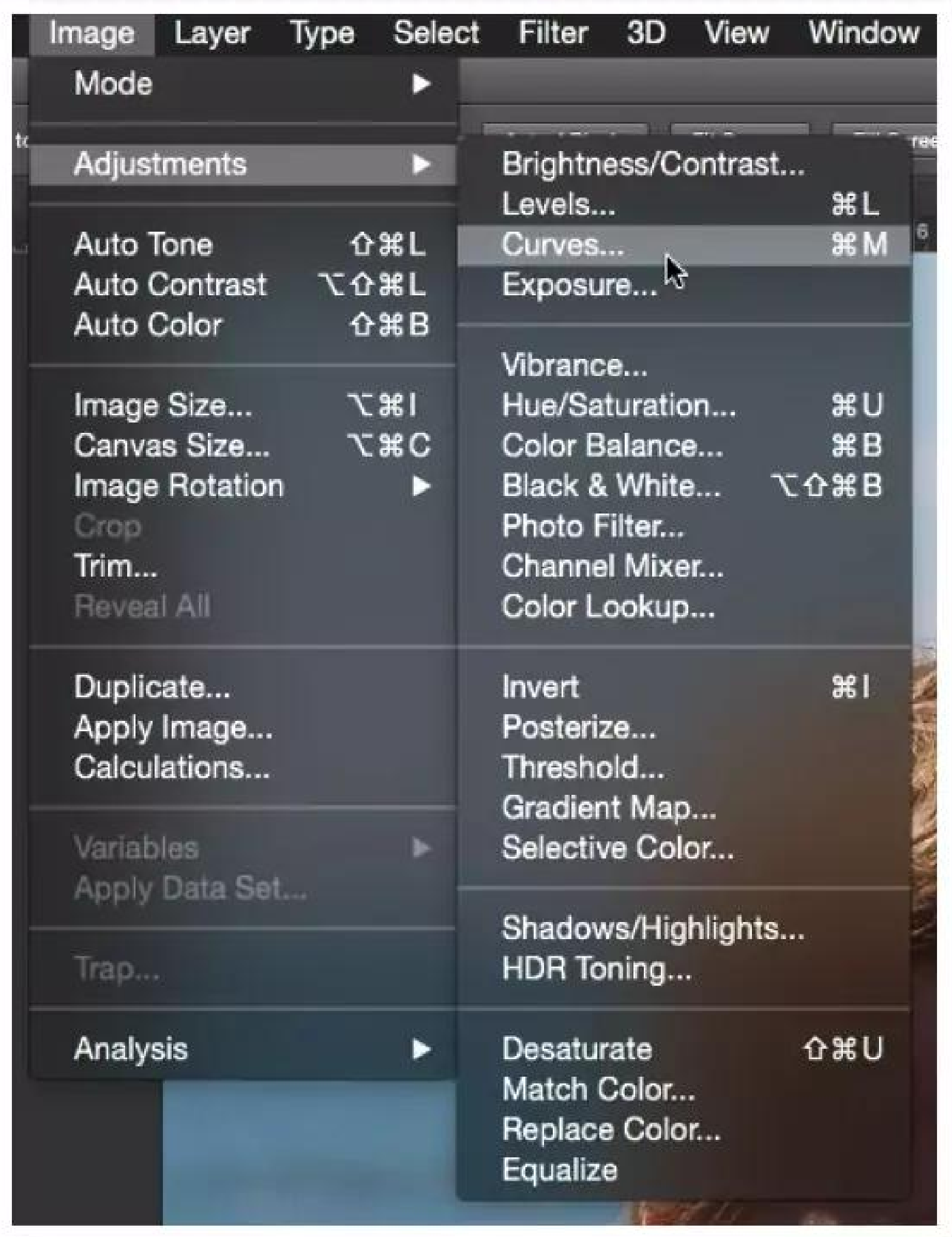
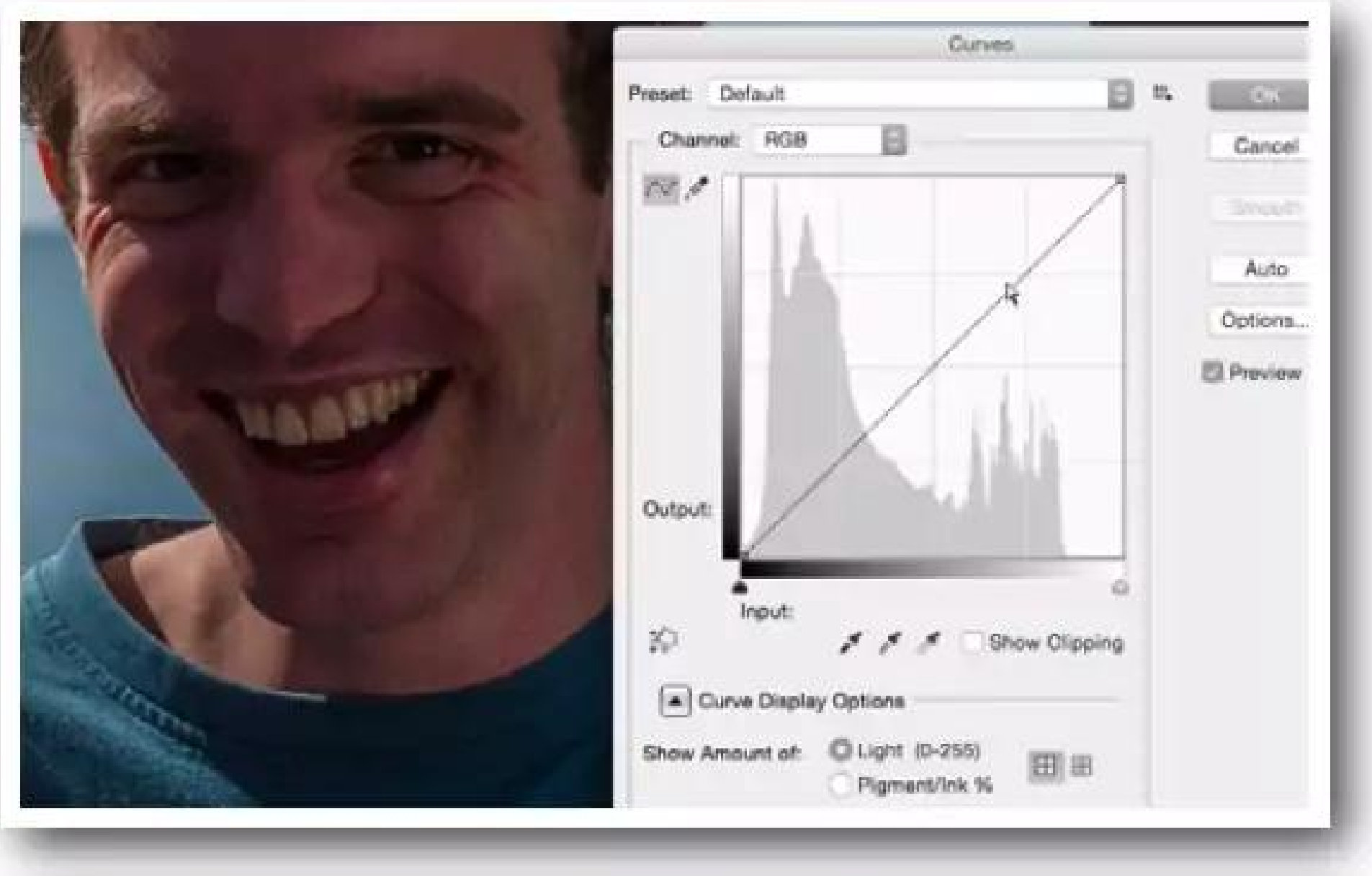
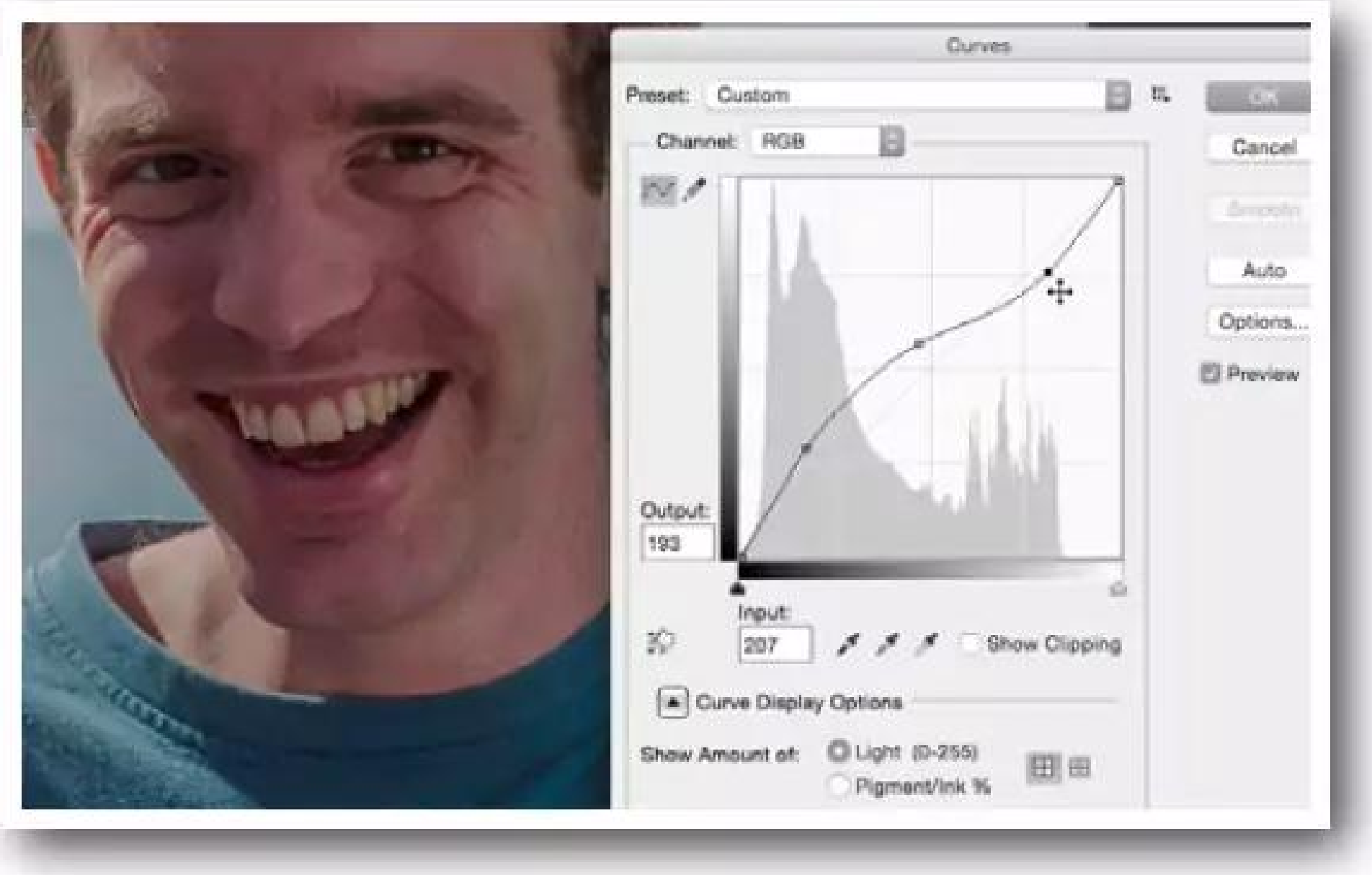


Image
Layer
Type
Select
Filter
3D
View
Window
Mode
Adjustments
Auto Tone ⇧⌘L
Auto Contrast ⌥⇧⌘L
Auto Color ⇧⌘B
Image Size... ⌥⌘I
Canvas Size... ⌥⌘C
Image Rotation
Crop
Trim...
Reveal All
Duplicate...
Apply Image...
Calculations...
Variables
Apply Data Set...
Trap...
Analysis
Brightness/Contrast...
Levels... ⌘L
Curves... ⌘M
Exposure...
Vibrance...
Hue/Saturation... ⌘U
Color Balance... ⌘B
Black & White... ⌥⇧⌘B
Photo Filter...
Channel Mixer...
Color Lookup...
Invert ⌘I
Posterize...
Threshold...
Gradient Map...
Selective Color...
Shadows/Highlights...
HDR Toning...
Desaturate ⇧⌘U
Match Color...
Replace Color...
Equalize

07 Curves adjustment, found in the Image > Adjustment menu, is a method of changing the relative brightness of specific tones and ranges of tones within an image. You can drag the Curves output line around by clicking at any point, then moving the handle that appears.


Curves
Preset: Default
Channel: RGB
Output:
Input:
Show Clipping
Curve Display Options
Show Amount of: Light (0-255) Pigment/Ink %
OK
Cancel
Auto
Options...
Preview


Curves
Preset: Custom
Channel: RGB
Output: 193
Input: 207
Show Clipping
Curve Display Options
Show Amount of: Light (0-255) Pigment/Ink %
OK
Cancel
Auto
Options...
Preview

08 We need to brighten the shadows and mid-tones, while simultaneously darkening the highlights by manipulating control point on the curve. Push the curve too far and you'll ruin the picture, but get it just right and you can rescue even quite badly under-exposed pictures.

Retouching a portrait

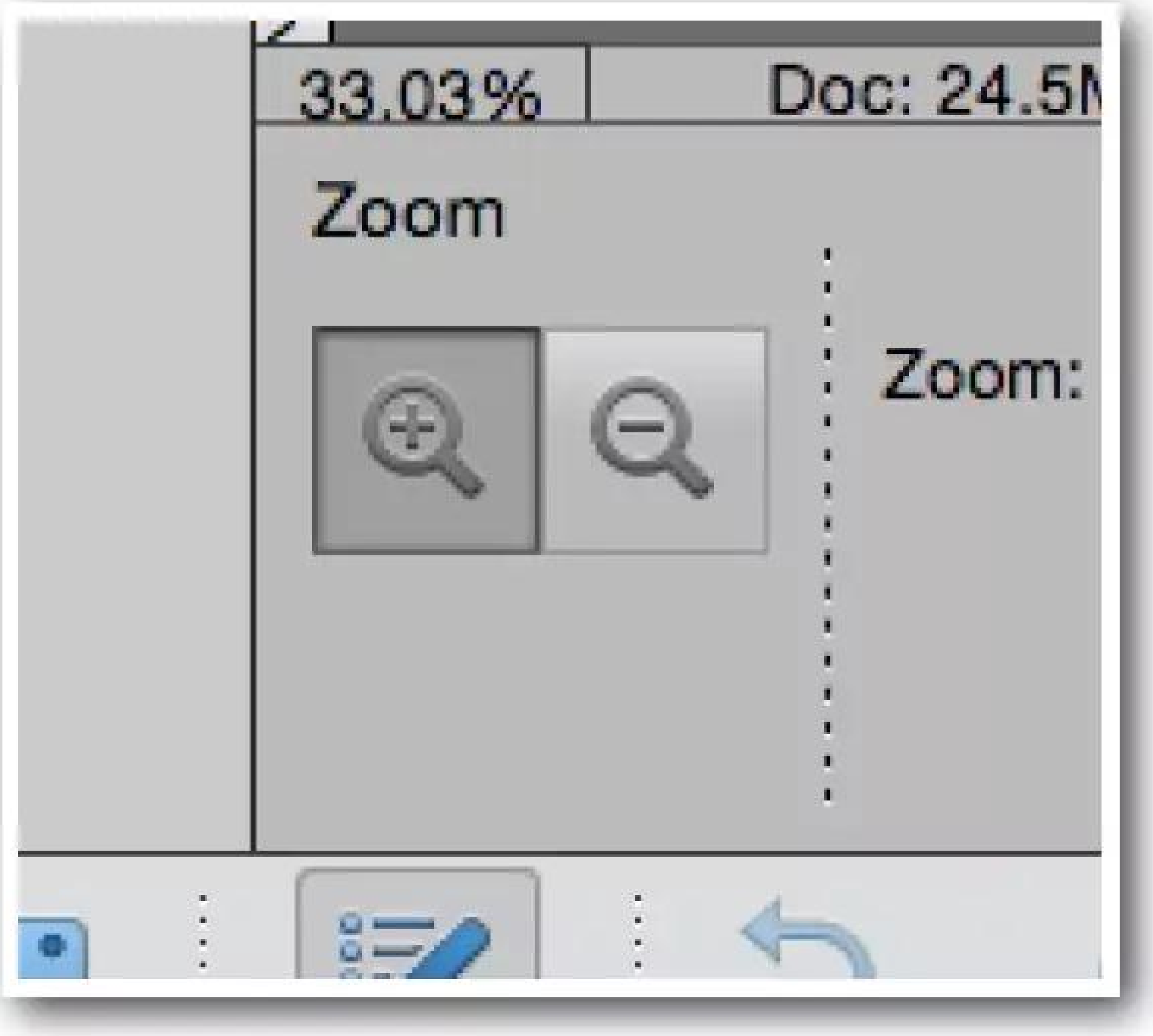
ENHANCE PORTRAITS IN COLOUR PRIOR TO CONVERTING TO MONO

ELEMENTS

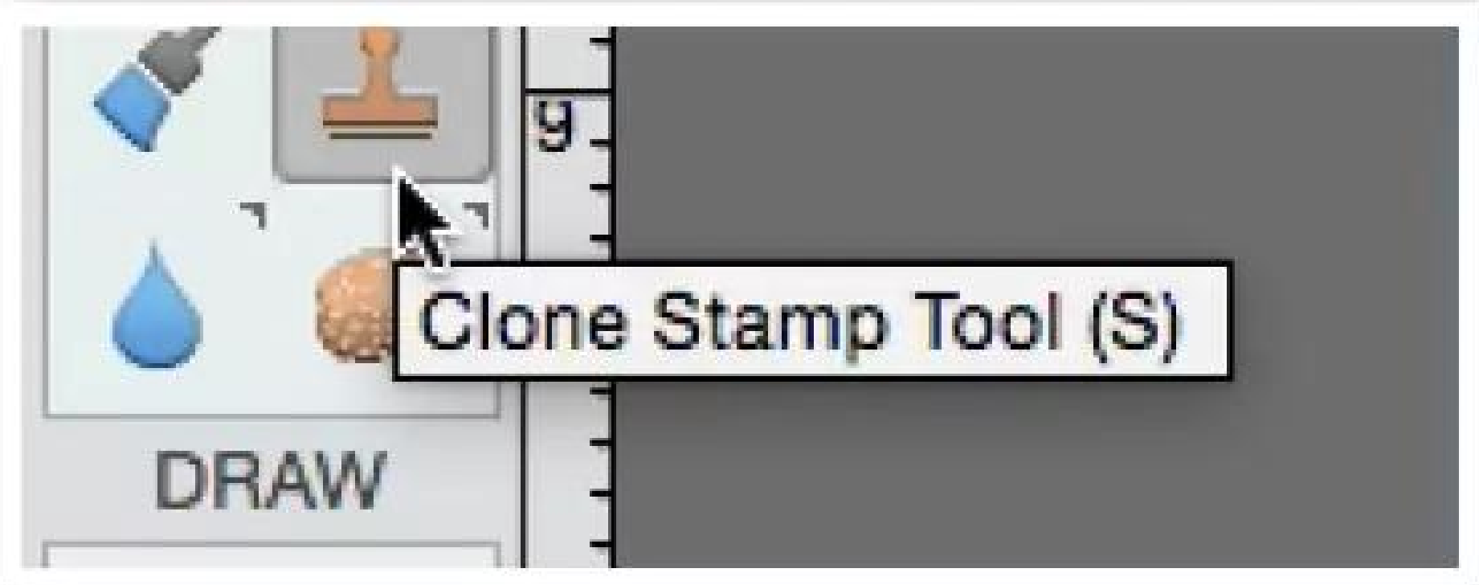
AFTER
BEFORE

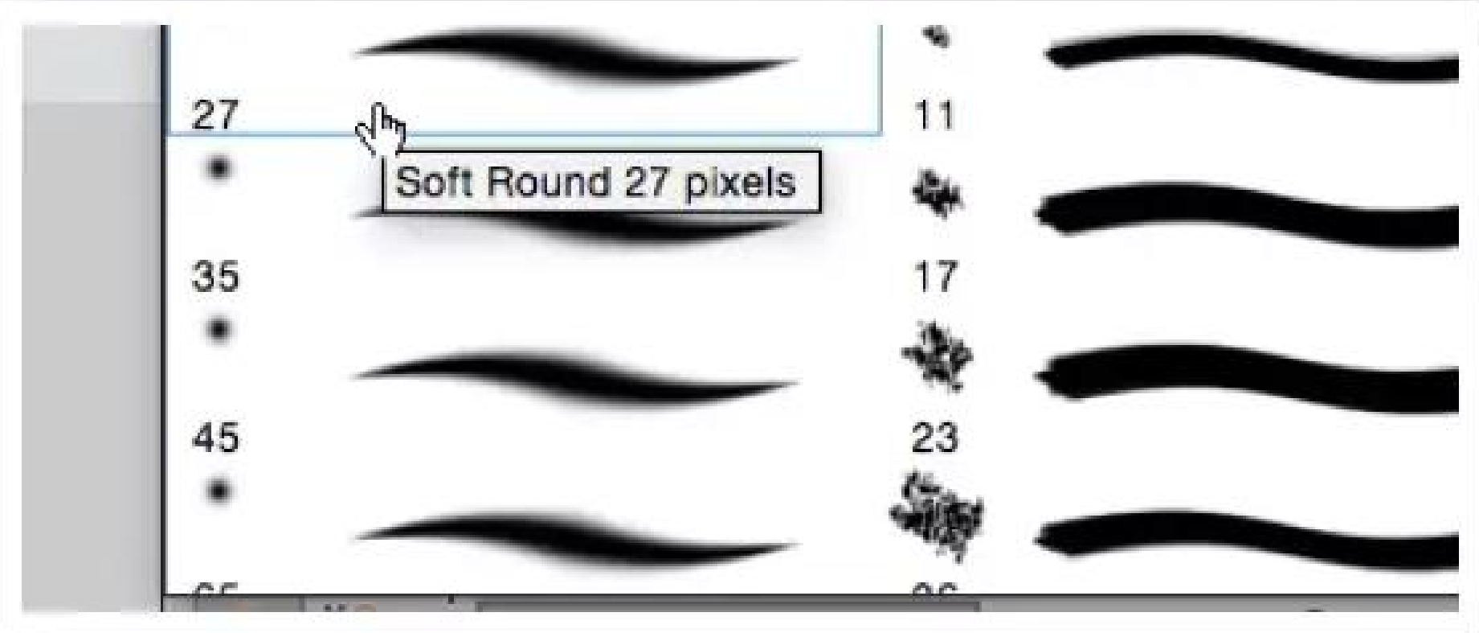
It has become an accepted fact that for mainstream advertising, marketing and fashion, any photographs used for those purposes will have been retouched to some degree.

Oil paintings of historical figures never show zits and coffee-stained teeth, and professional portrait photographs have always been retouched. All of the most famous portrait photographers have employed the talents of retouch artists to work on prints and negatives with a brush or airbrush to correct minor blemishes. Here, we cover some of the more basic retouch areas.

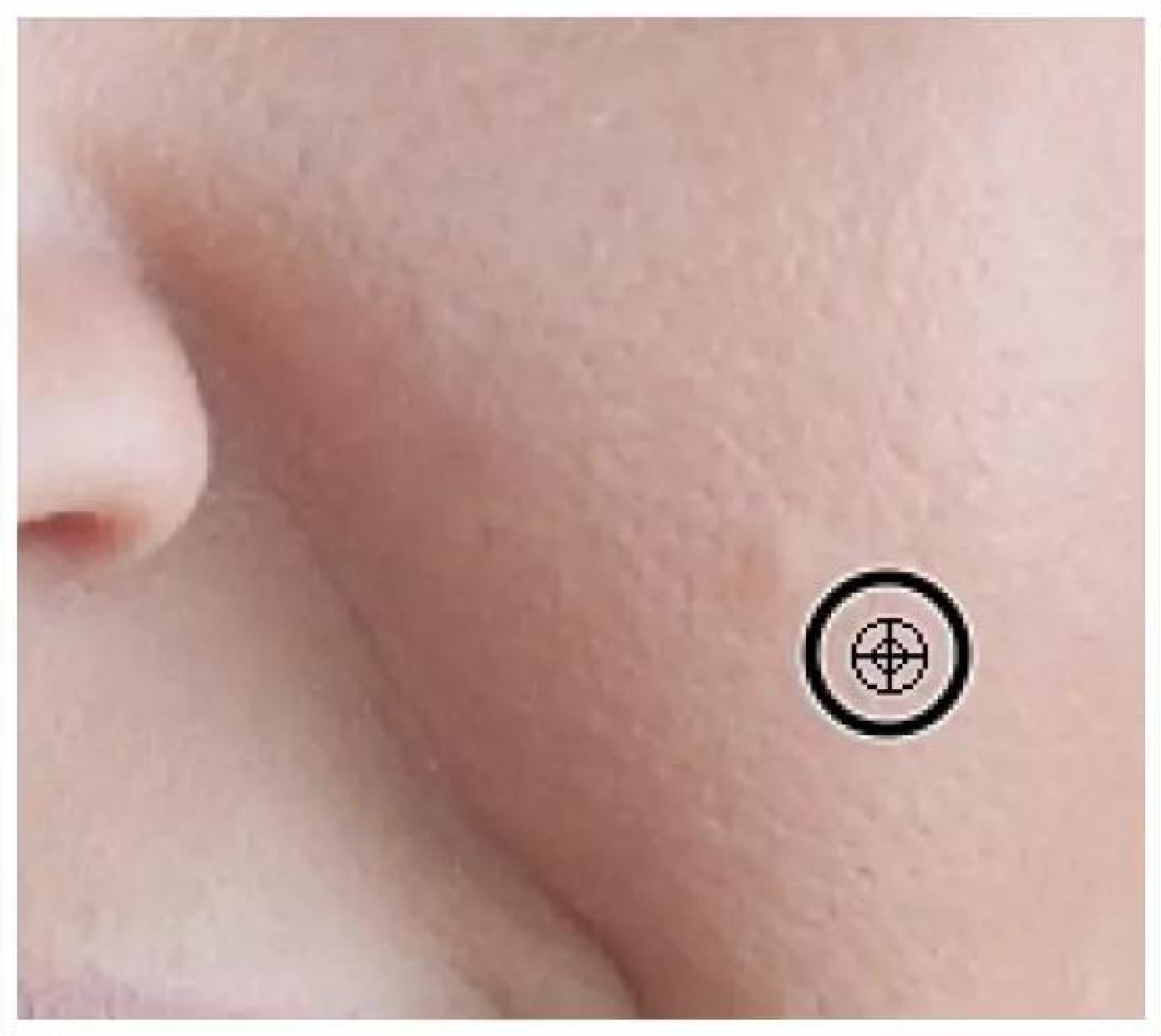


01 Select the Zoom tool from the tool palette, or by using the keyboard shortcut 'Z', and click on the subject's face until it is zoomed as required. Alternatively you can use the zoom slider in the tool option bar bottom-left of your screen.

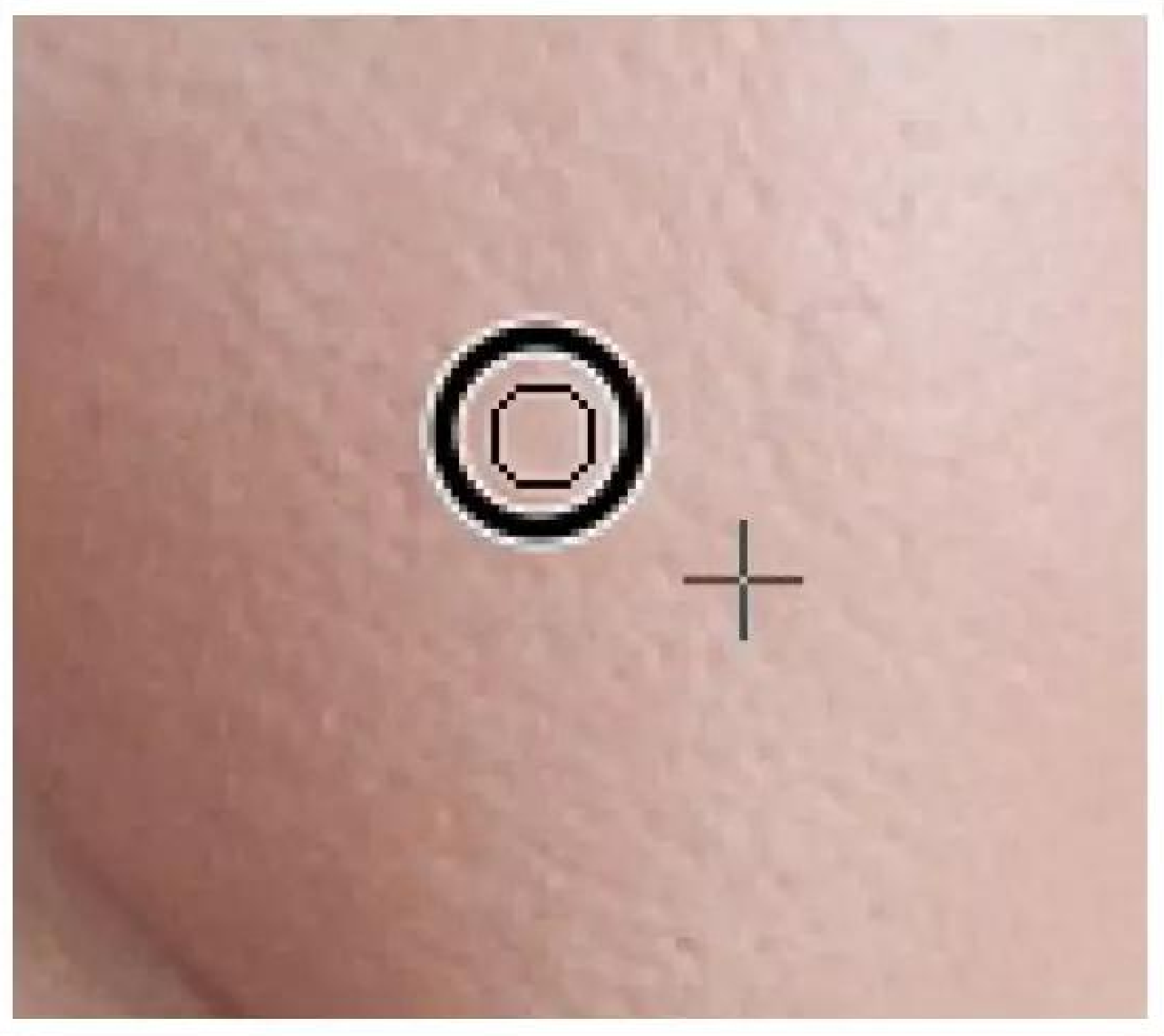




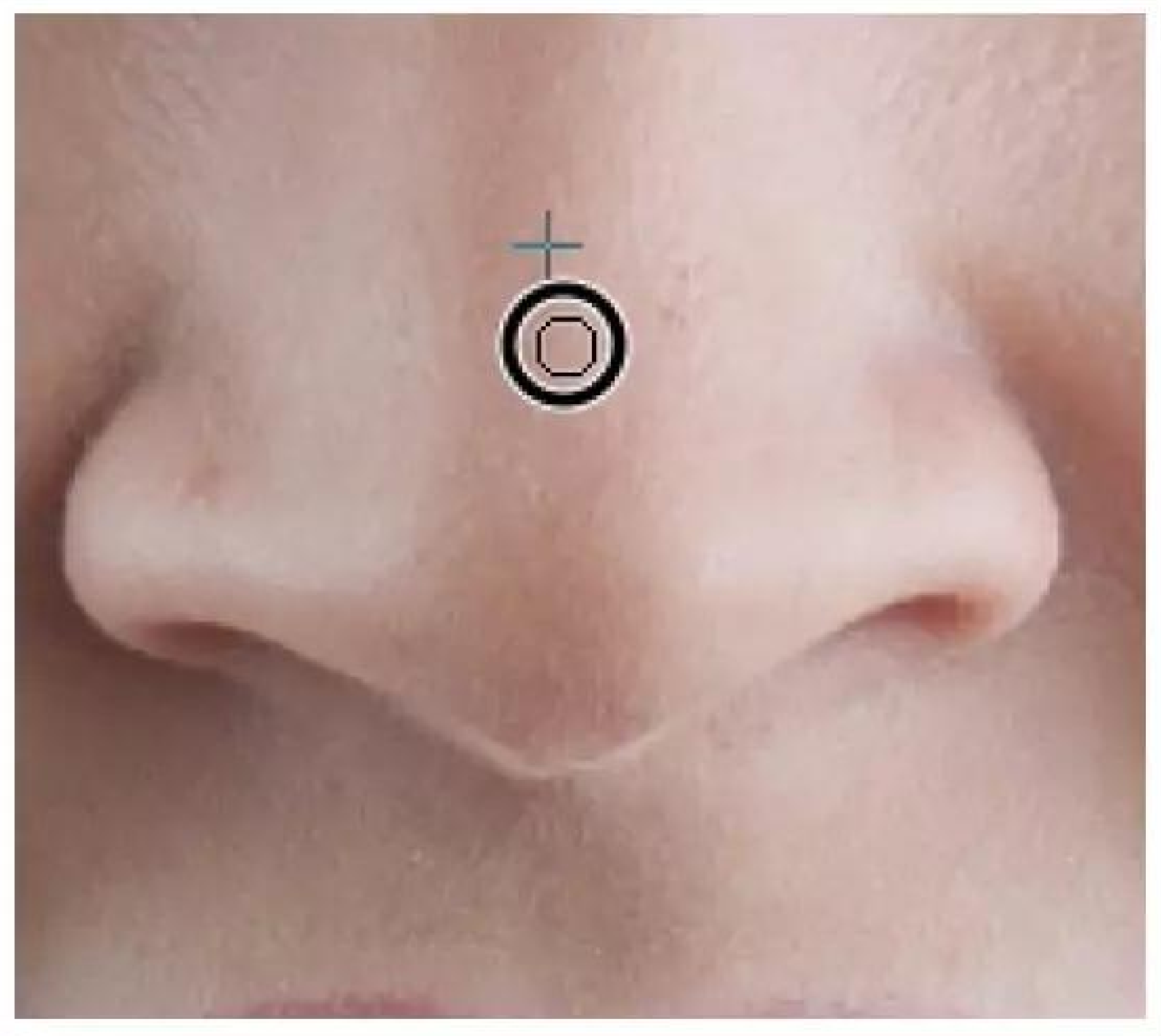
02 Select the Clone Stamp tool from the tool palette. When you select it, you'll see that at the bottom of the screen is a box with a drop-down arrow, labelled Brush Presets. Select a soft round brush 27 pixels in diameter.



03 Pick an area adjacent to the skin blemish that you wish to remove. It needs to be a good match for the skin tone around the blemish, because we're going to use a sample of this area to cover up the blemish.

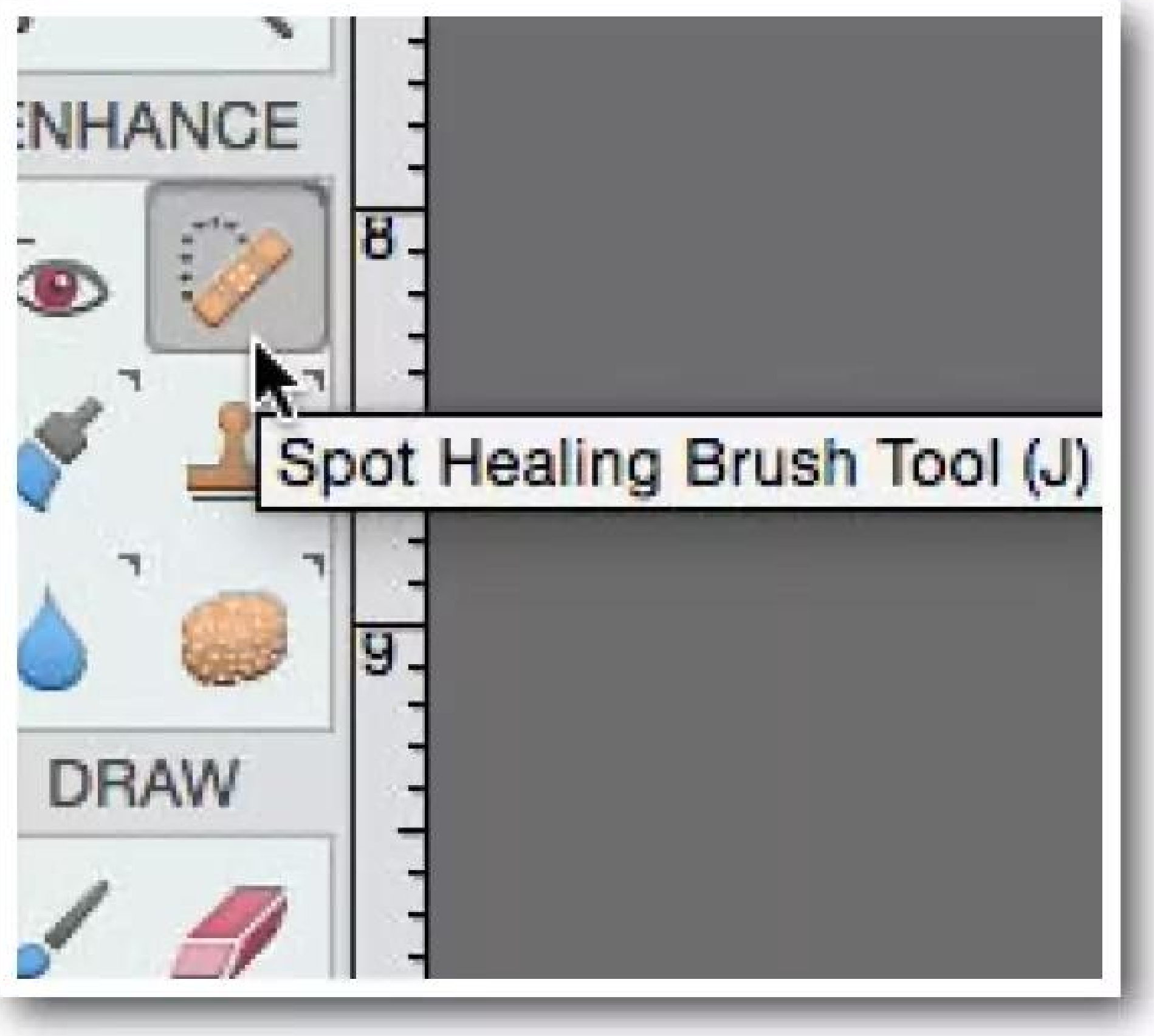


04 Hold down the 'Alt' key on your keyboard and you'll see the cursor change to a round cross-hair. Click this cross-hair on the point you want to start sampling.

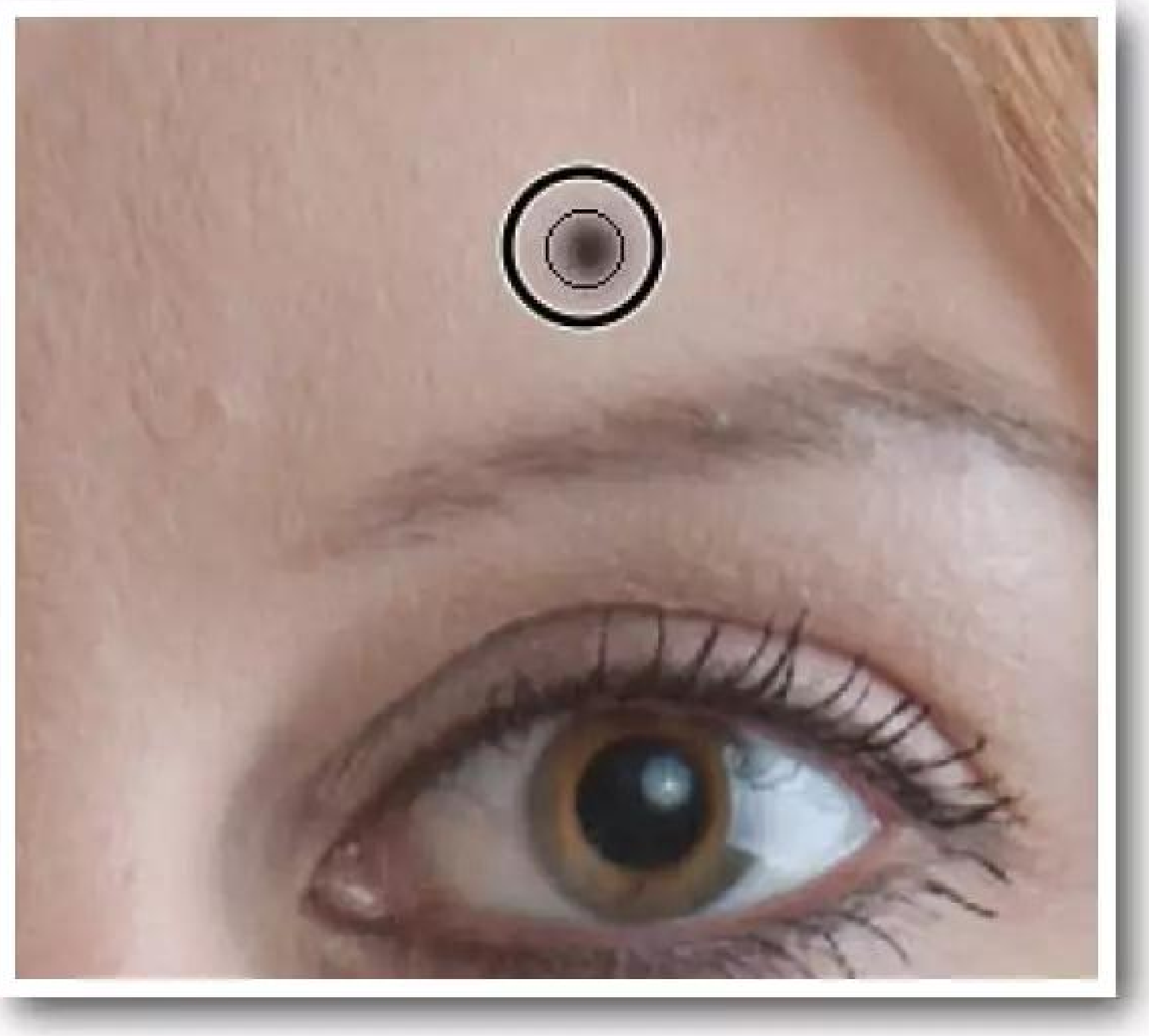


05 You'll see that there is a cross that follows the path of the brush cursor, indicating the place from which the sample is being taken. If it passes over any other marks, these will be copied too. You may need to use several sample points to cover up a larger blemish.

06 Remember that you can drag the image around the screen at any time by holding down the space bar and left-clicking the mouse.

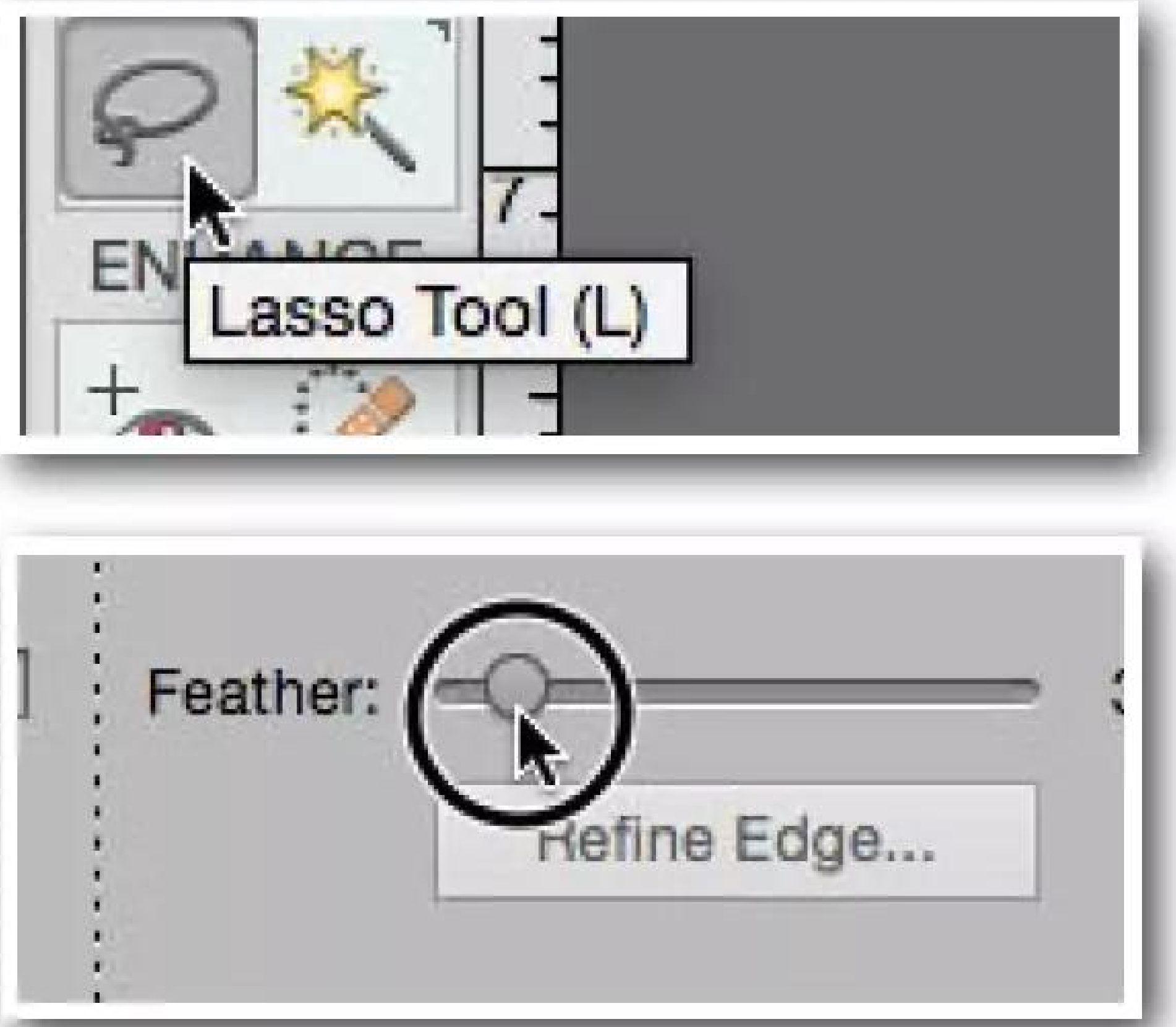

ENHANCE
Spot Healing Brush Tool (J)
DRAW

07 There is another tool for removing skin blemishes, which, while not as precise as the Clone Stamp, is certainly quicker and easier to use. It's the Spot Healing Brush, and you'll find it on Photoshop 7, CS1 onwards, as well as Elements from version 3.0 onwards.

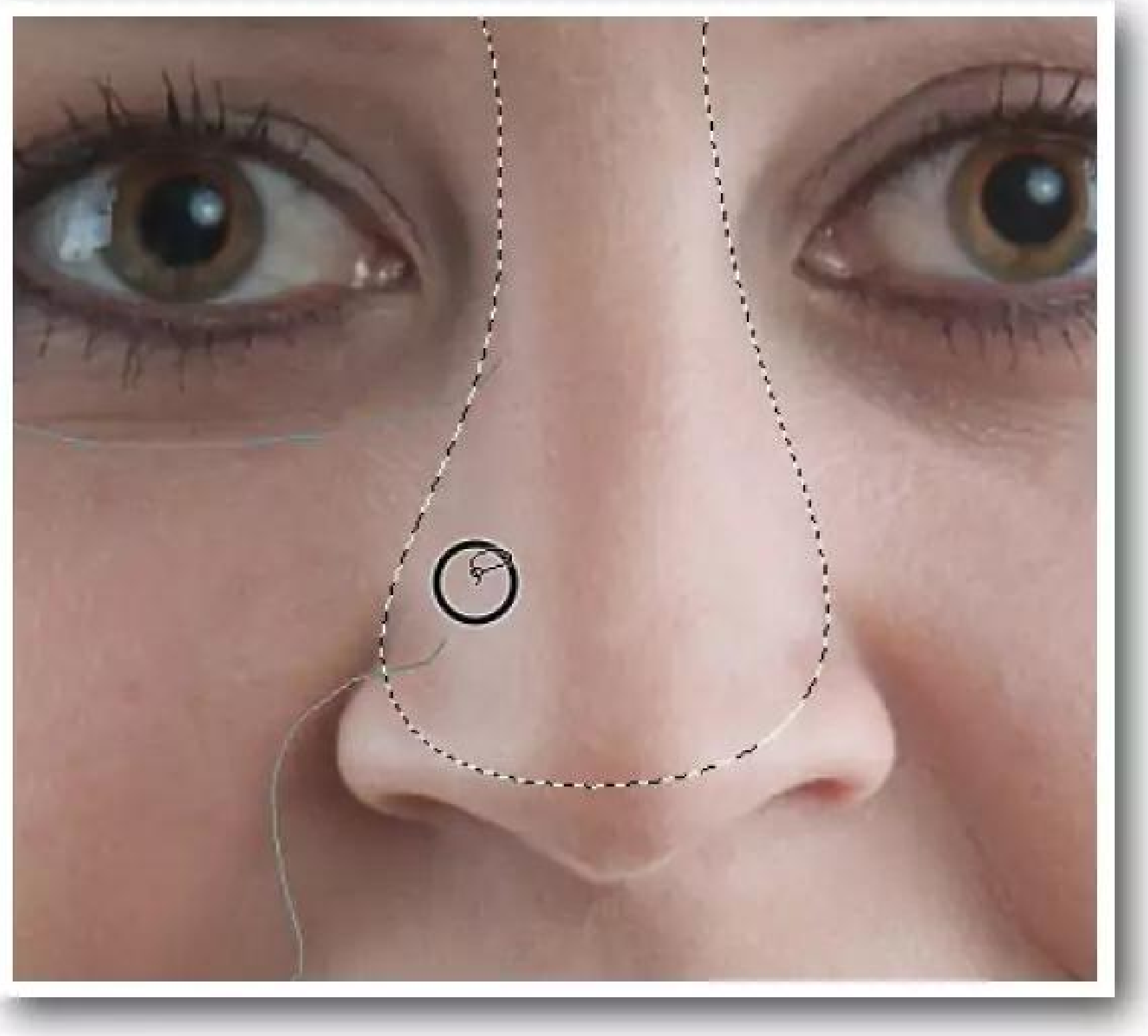


08 The Healing Brush is best for small blemishes such as spots or small scars. To use it, simply click over the blemish you wish to remove with a soft brush, and the Spot Healing Tool will automatically fill that area. Go over each blemish in turn.

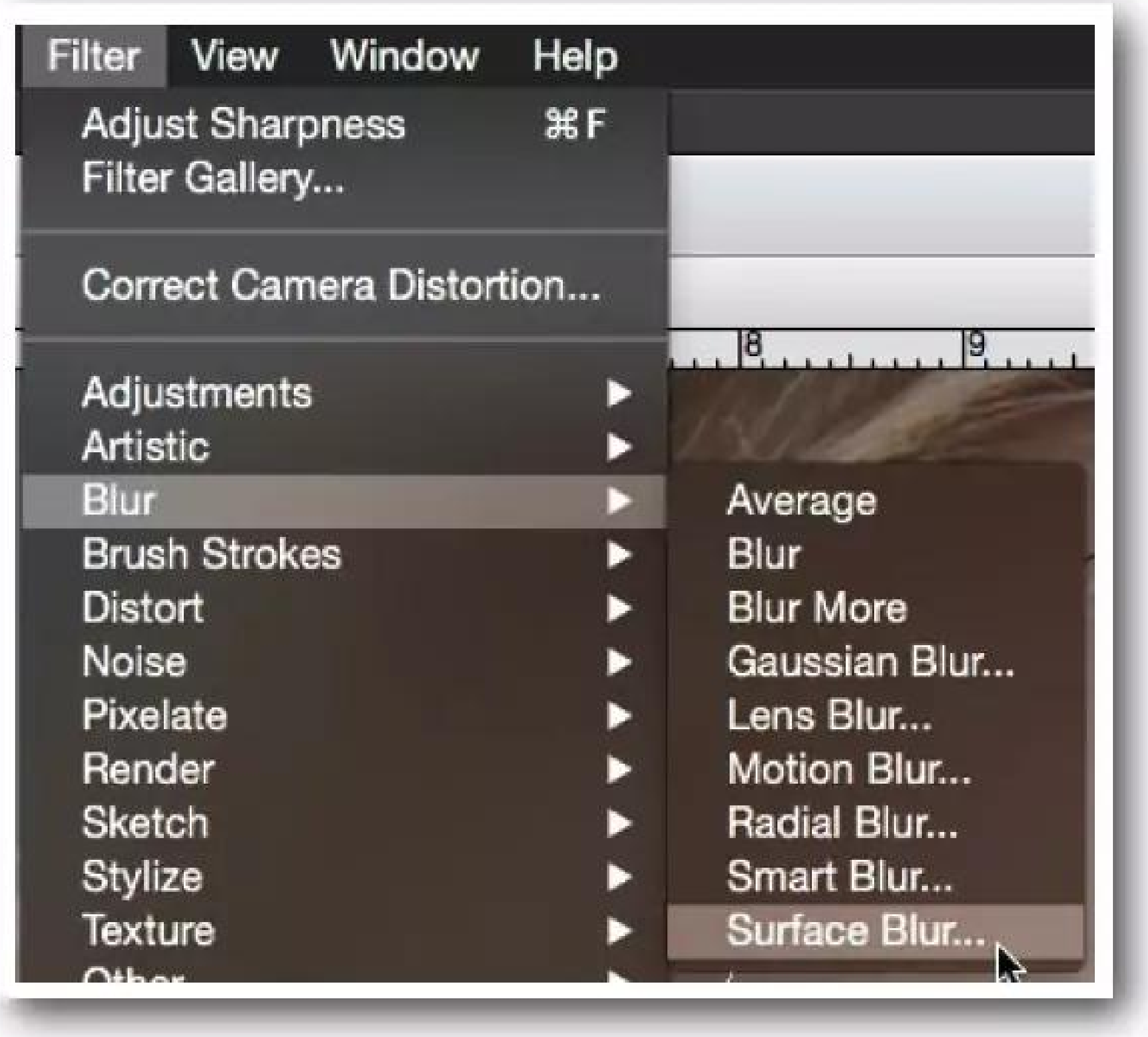
09 There are several other things you can do to improve the appearance of a portrait. Our model here has very good skin, but if skin texture is a problem then you can use selective blurring to smooth it out.


Lasso Tool (L)
Feather:
Refine Edge...

10 Select the Lasso tool from the tool palette and select areas of an image for adjustment. You can soften the edges of the selection by using a setting called Feather.

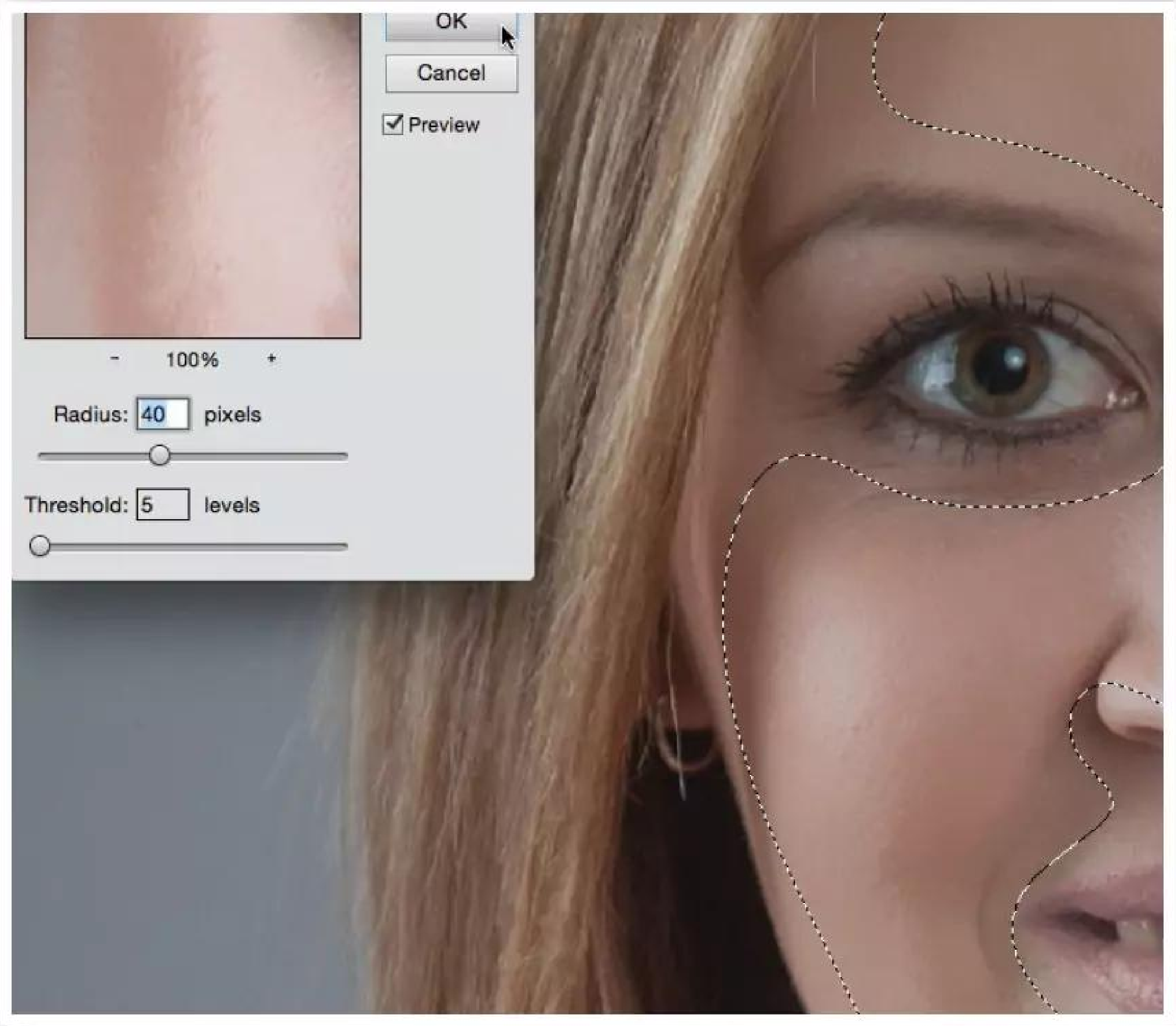


11 Using the Lasso tool, carefully draw around all areas of open skin texture, avoiding any edges or details such as the nose and eyes.


Filter
View
Window
Help
Adjust Sharpness ⌘F
Filter Gallery...
Correct Camera Distortion...
Adjustments
Artistic
Blur
Brush Strokes
Distort
Noise
Pixelate
Render
Sketch
Stylize
Texture
Average
Blur
Blur More
Gaussian Blur...
Lens Blur...
Motion Blur...
Radial Blur...
Smart Blur...
Surface Blur...

12 When you're happy with your selection, go to the Filter menu at the top of the screen, roll down to Blur, and select Surface Blur.

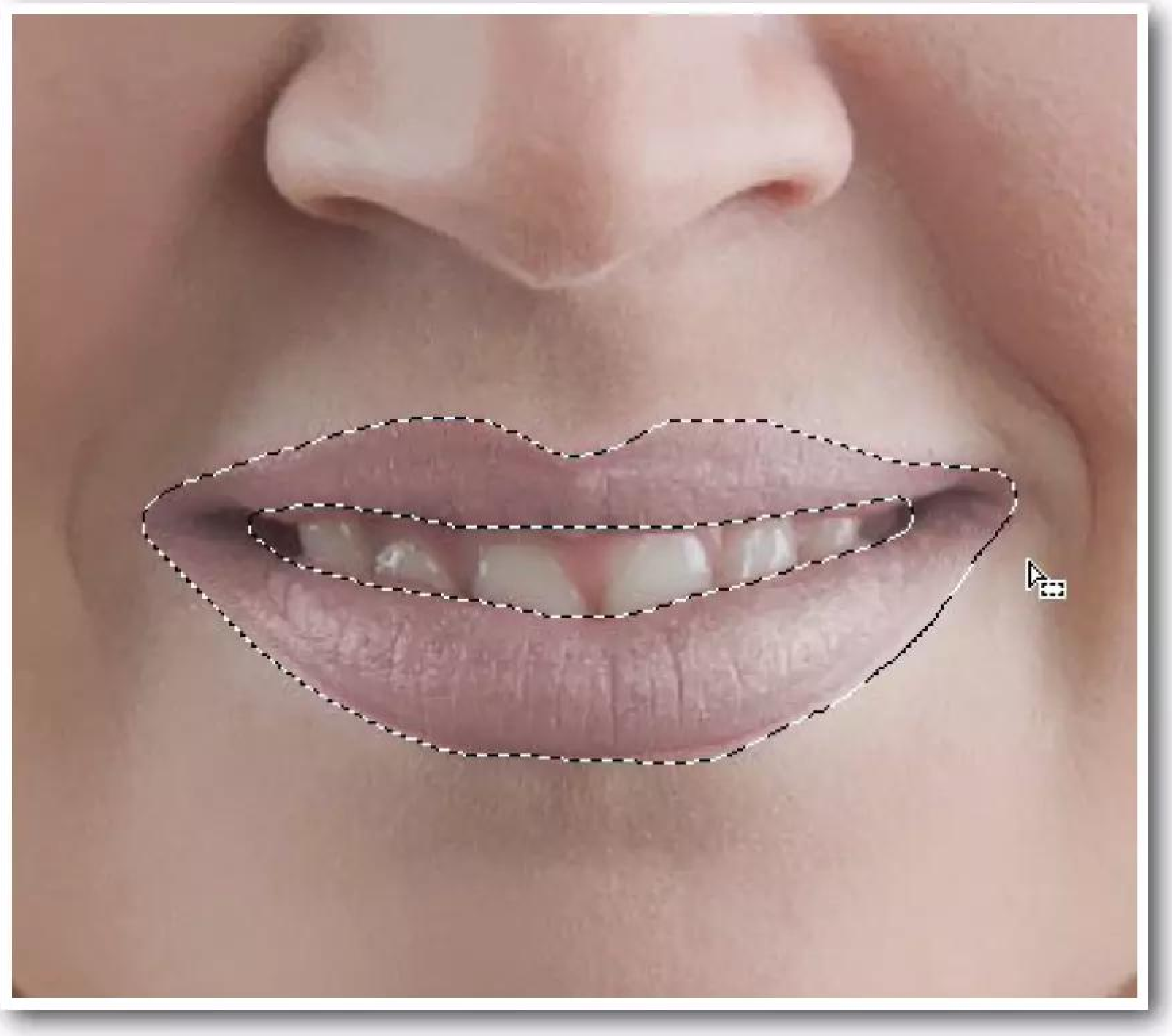
Retouching a portrait


OK
Cancel
☑ Preview
- 100% +

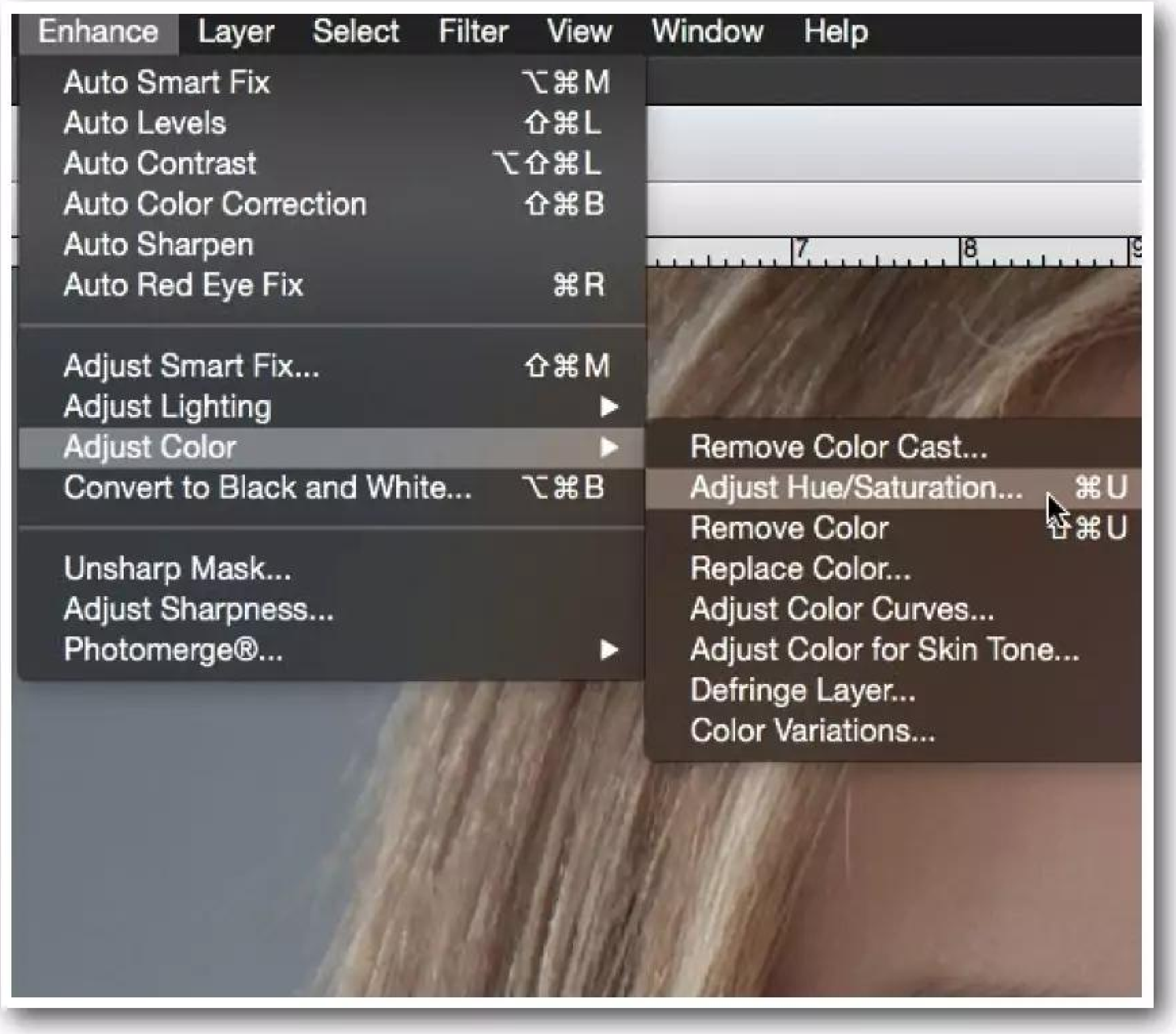
Radius: 40 pixels

Threshold: 5 levels

13 You will need to adjust both your Radius values and the Threshold value until you achieve the level of blur you are after. When you've finished, press Ctrl+D to cancel the area selection.



14 We can increase the saturation of the colour of her lips. Using the Lasso tool, but this time with a Feather of 5 pixels, carefully select the lips, using the Alt key to de-select the teeth.


Enhance
Layer
Select
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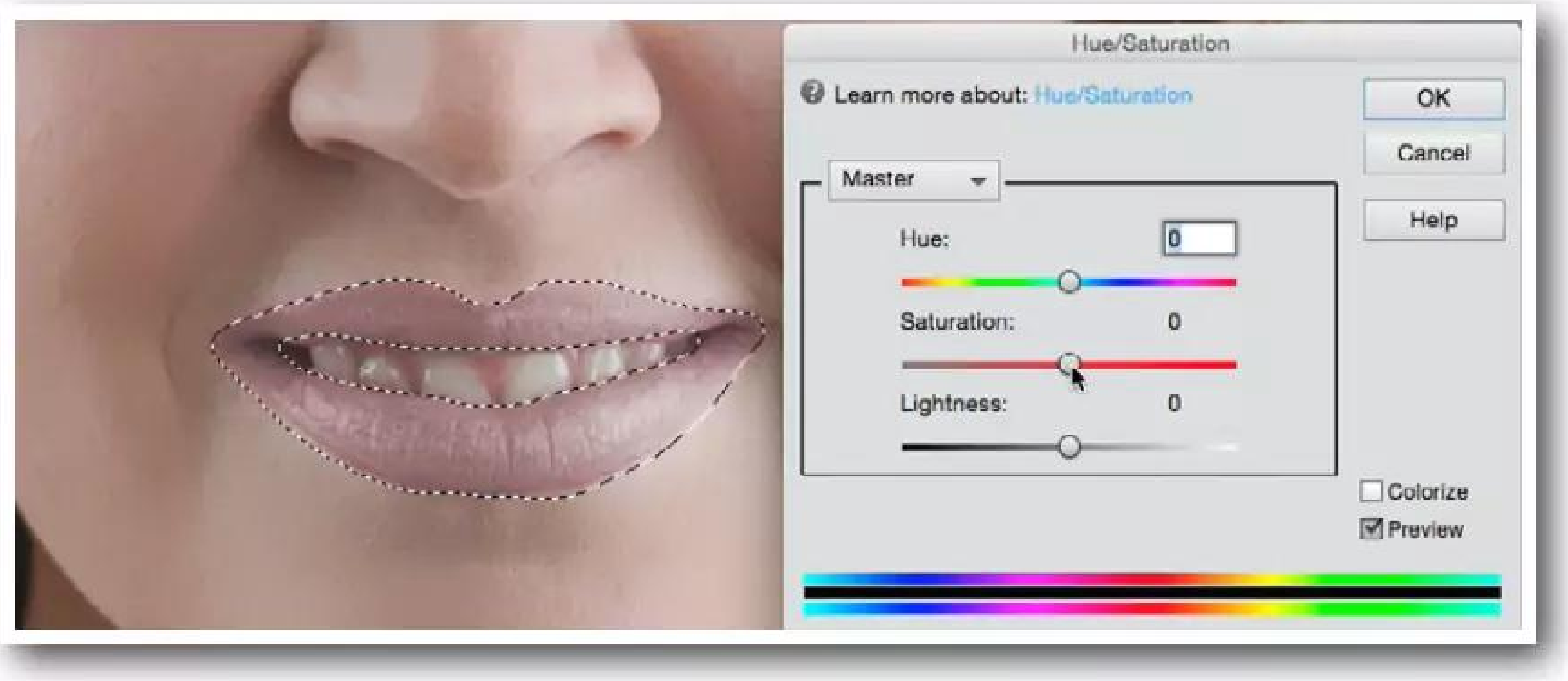
Help
Auto Smart Fix ⌥⌘M
Auto Levels ⇧⌘L
Auto Contrast ⌥⇧⌘L
Auto Color Correction ⇧⌘B
Auto Sharpen
Auto Red Eye Fix ⌘R
Adjust Smart Fix... ⇧⌘M
Adjust Lighting ▶
Adjust Color ▶
Convert to Black and White... ⌥⌘B
Unsharp Mask...
Adjust Sharpness...
Photomerge®... ▶
Remove Color Cast...
Adjust Hue/Saturation... ⌘U
Remove Color ⇧⌘U
Replace Color...
Adjust Color Curves...
Adjust Color for Skin Tone...
Defringe Layer...
Color Variations...

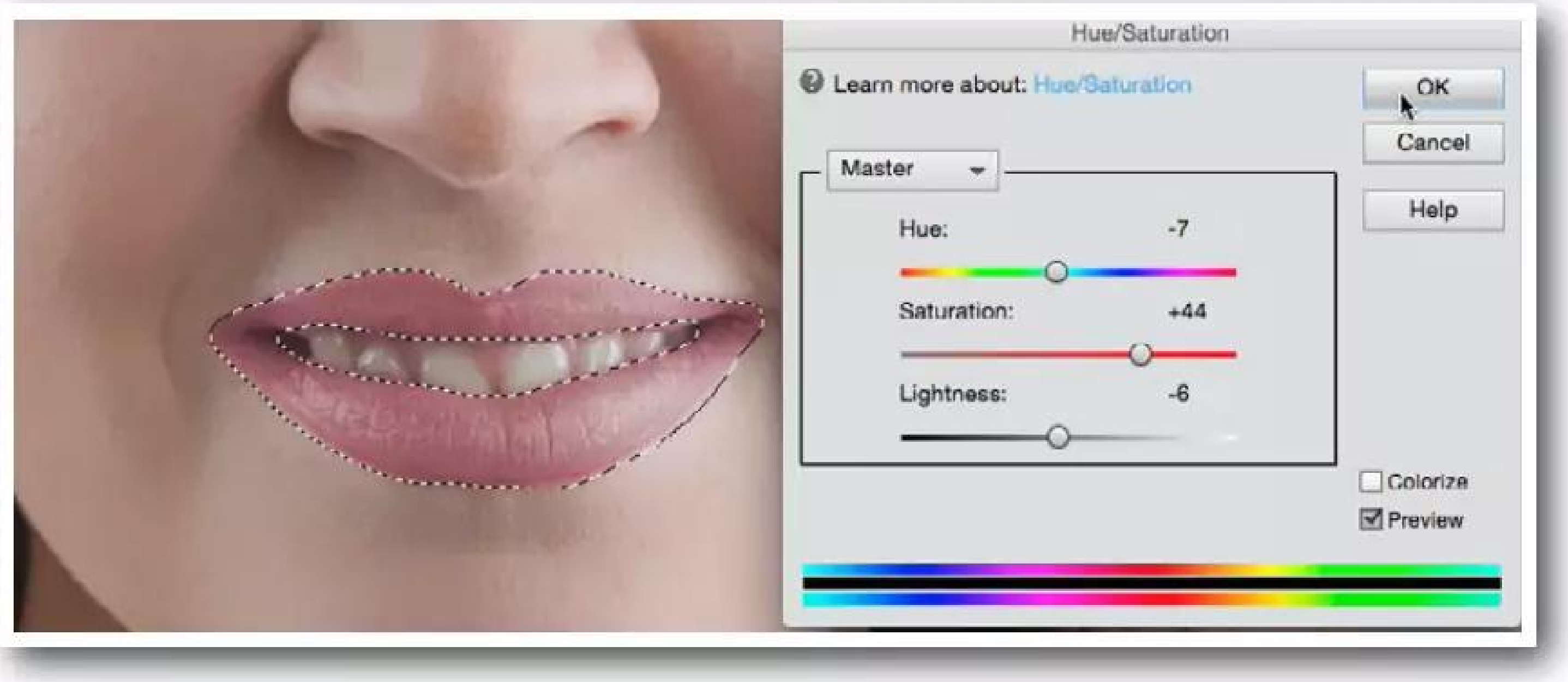
15 You'll find the Saturation adjustment in the Enhance menu under Adjust Colour (or "Color", since it's an American program). Select it and a control panel with three sliders will appear.


Hue/Saturation
Learn more about: Hue/Saturation
OK
Cancel
Help
Master
☐ Colorize
☑ Preview

Hue: 0

Saturation: 0

Lightness: 0

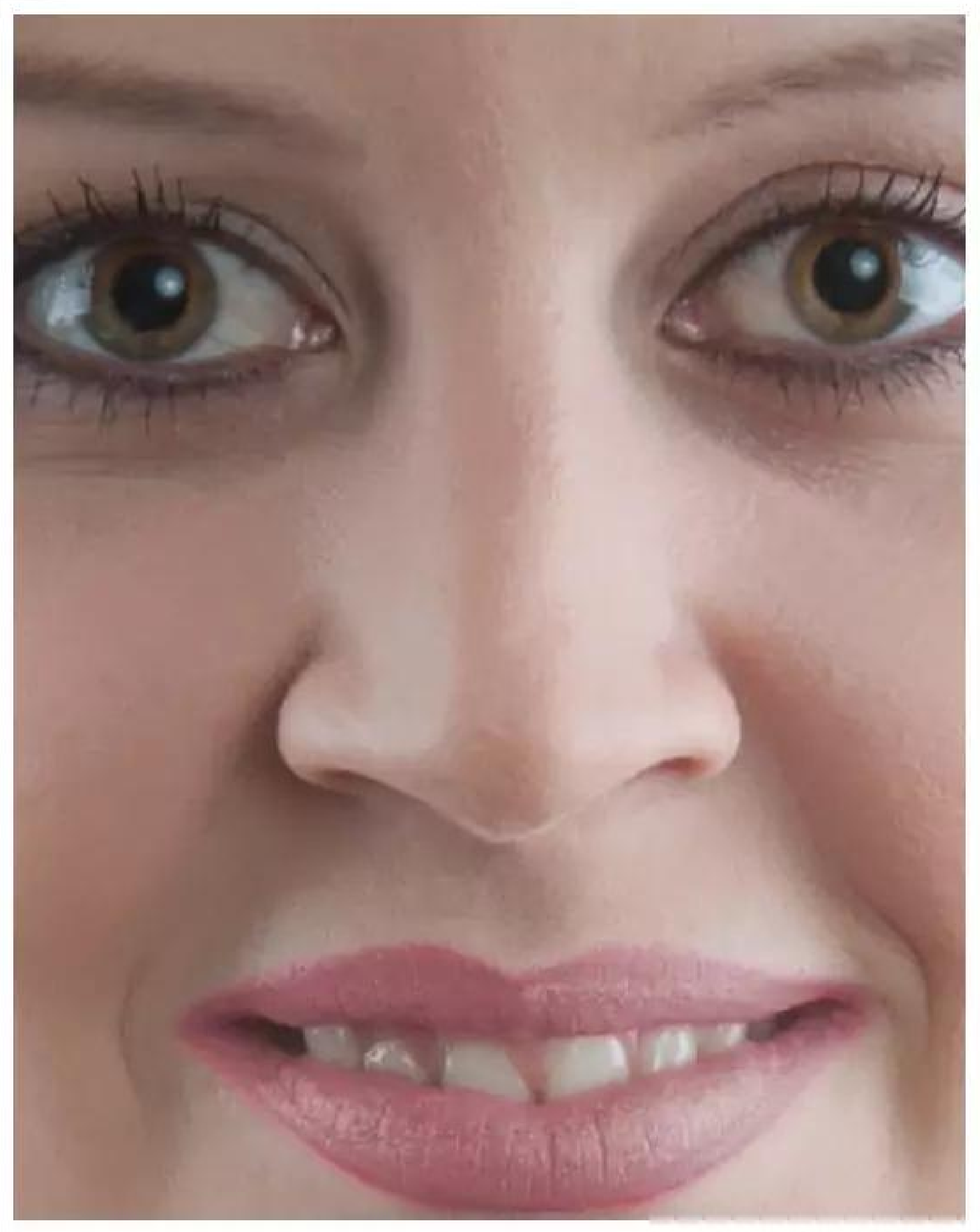

Hue/Saturation
Learn more about: Hue/Saturation
OK
Cancel
Help
Master
☐ Colorize
☑ Preview

Hue: -7

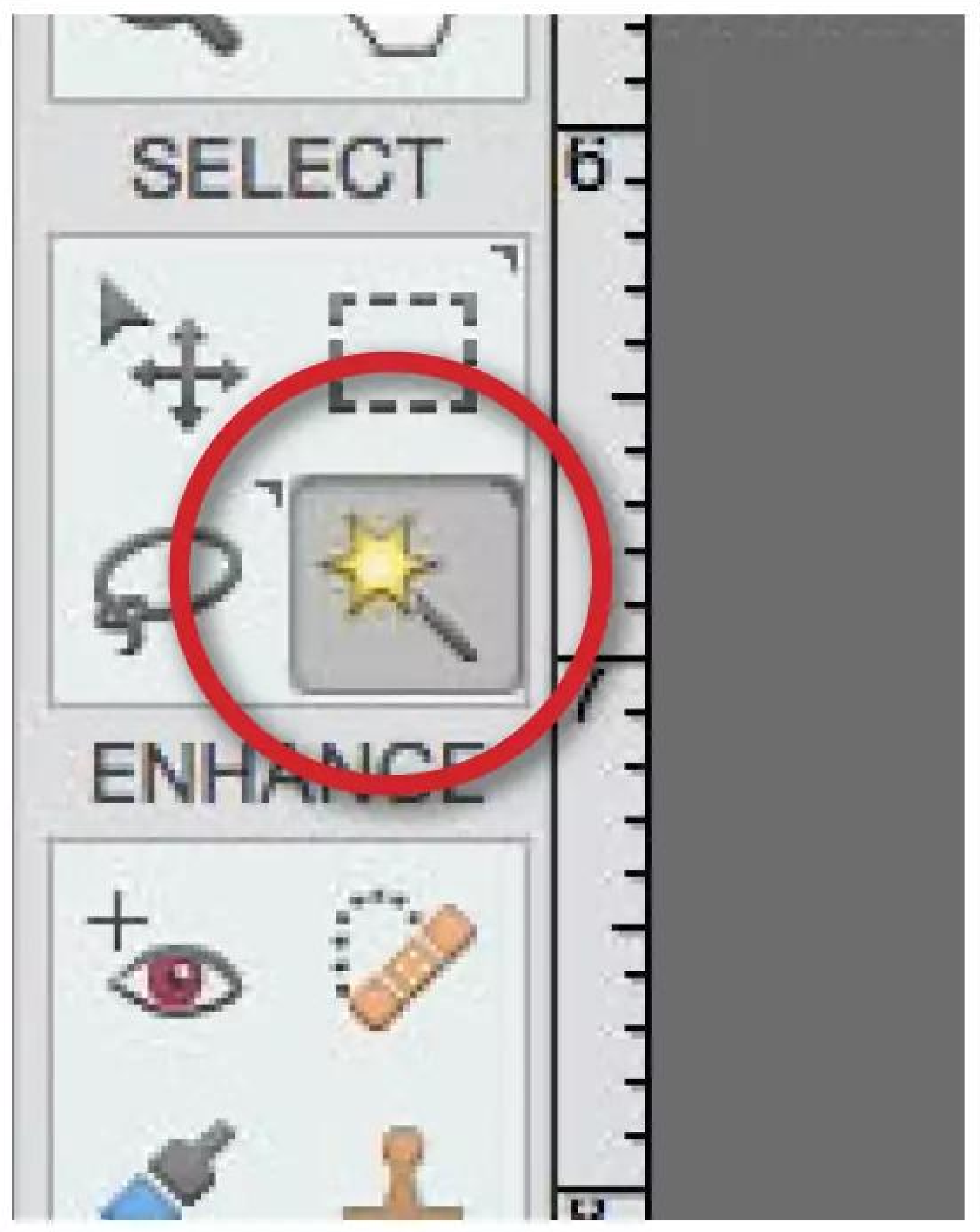
Saturation: +44

Lightness: -6

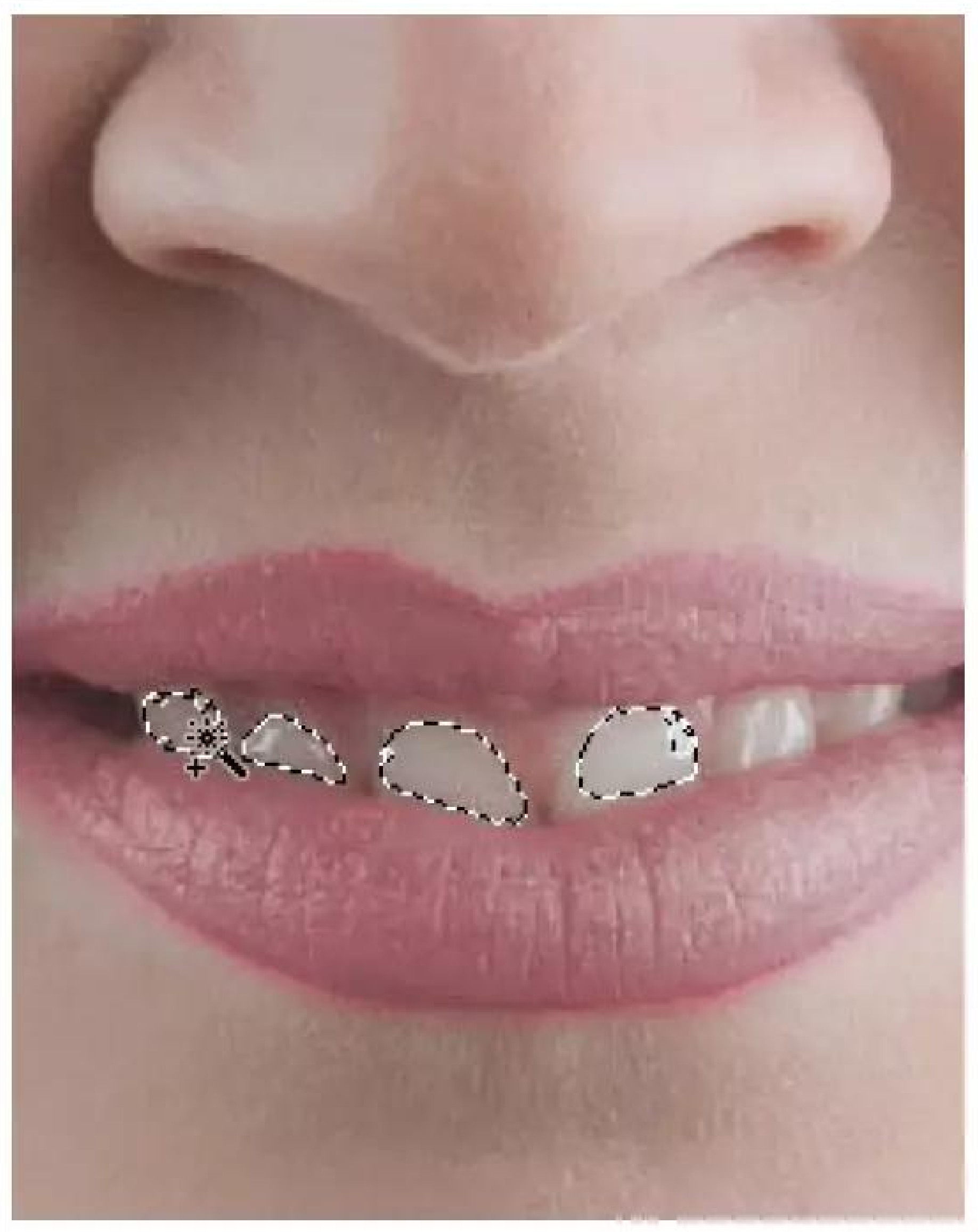
16 Move the hue, saturation and lightness sliders to alter the shade of colour, density and brightness of the lips until you are happy with the result. Press Ctrl+D to cancel the selection.



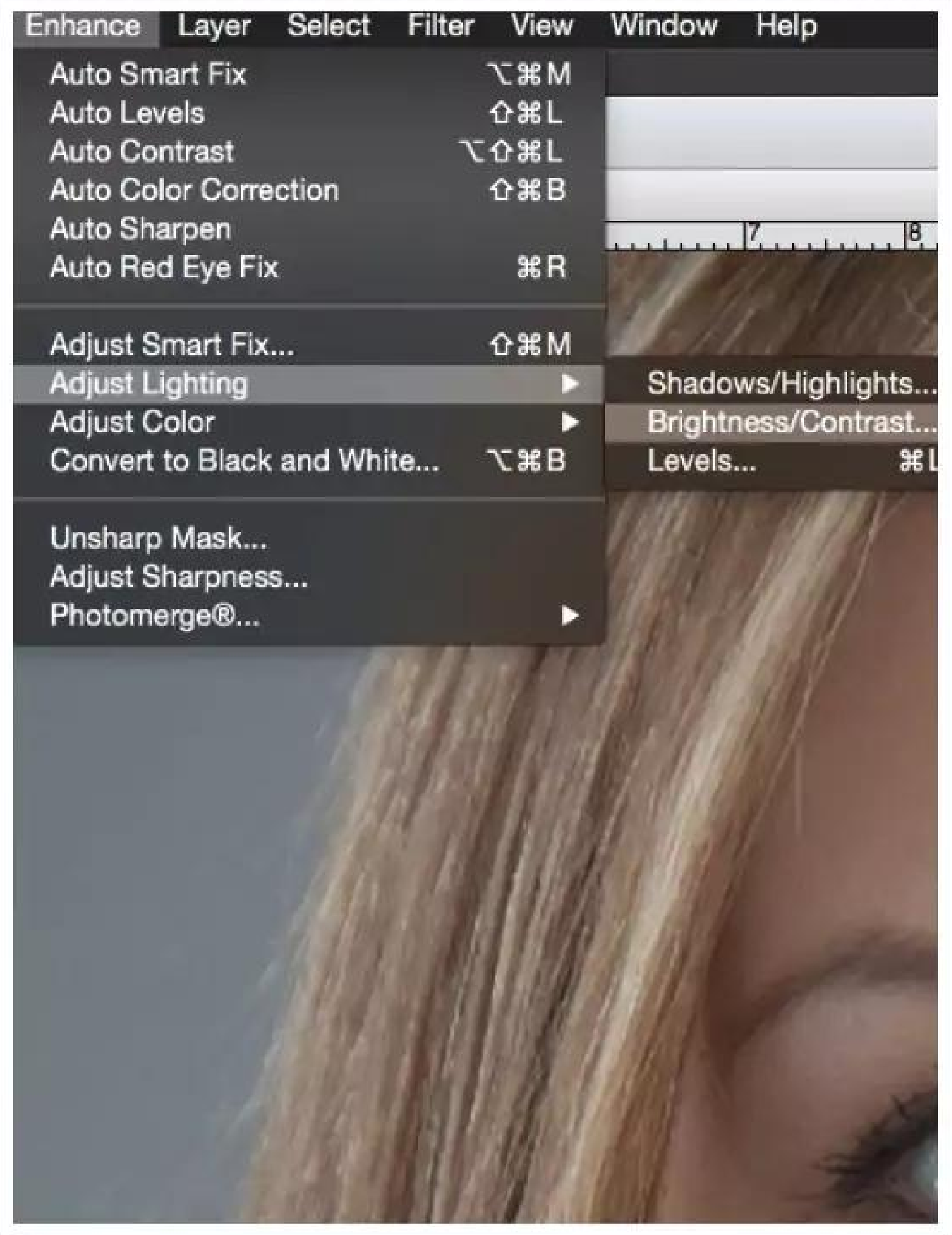
17 Although our model here doesn't really need it, one good way of improving a portrait is to lighten the subject's teeth and the whites of the eyes, and it's very easy to do.


SELECT
ENHANCE

18 First, select the Magic Wand tool from the palette. It's quicker and easier than trying to select them manually. You can adjust the degree of similarity that is selected by altering the Tolerance to a value of about 8.



19 Click the Magic Wand tool on the teeth to select an area. You can add more areas by holding down the Shift key and clicking on unselected areas. Continue until all of the teeth but none of the surrounding area is selected.


Enhance
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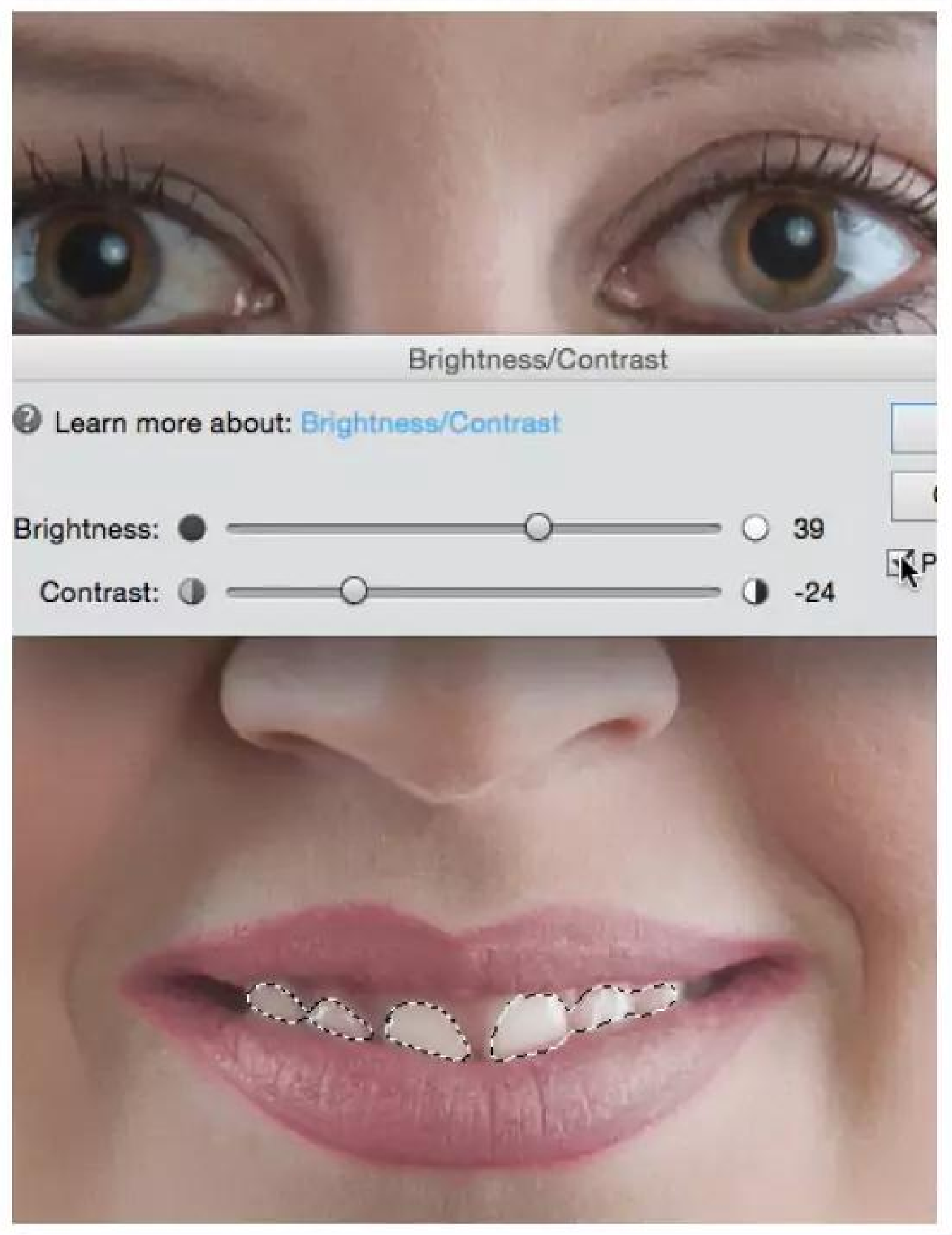
Auto Smart Fix ⌥⌘M
Auto Levels ⇧⌘L
Auto Contrast ⌥⇧⌘L
Auto Color Correction ⇧⌘B
Auto Sharpen
Auto Red Eye Fix ⌘R
Adjust Smart Fix... ⇧⌘M
Adjust Lighting ▶
Adjust Color ▶
Convert to Black and White... ⌥⌘B
Unsharp Mask...
Adjust Sharpness...
Photomerge®... ▶
Shadows/Highlights...
Brightness/Contrast...
Levels... ⌘L

20 When you're happy with your selection, go to the Enhance menu, roll down to Adjust Lighting, and select Brightness/Contrast. You'll see a control panel with two sliders.



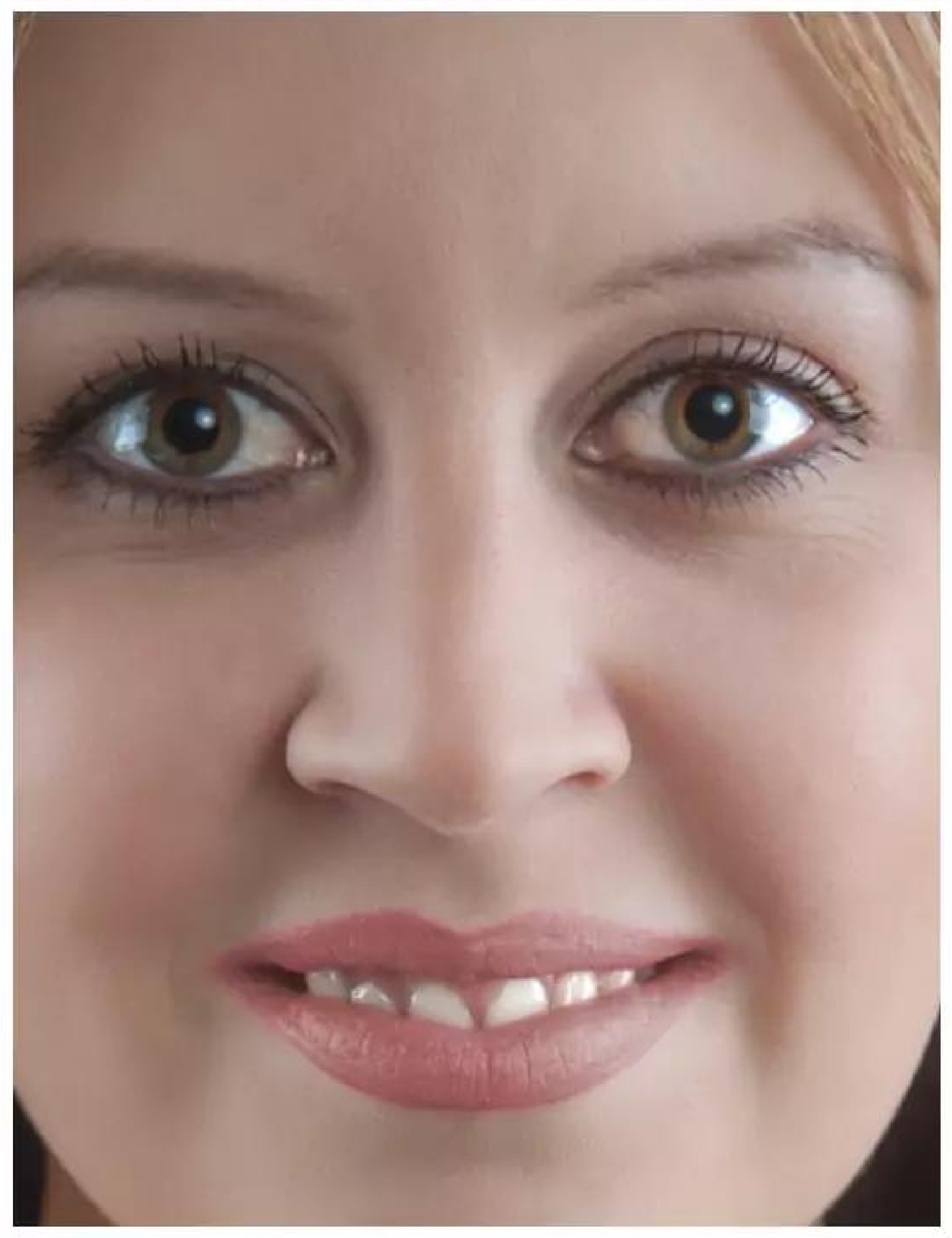
Brightness/Contrast

Learn more about: Brightness/Contrast

Brightness: 39

Contrast: -24

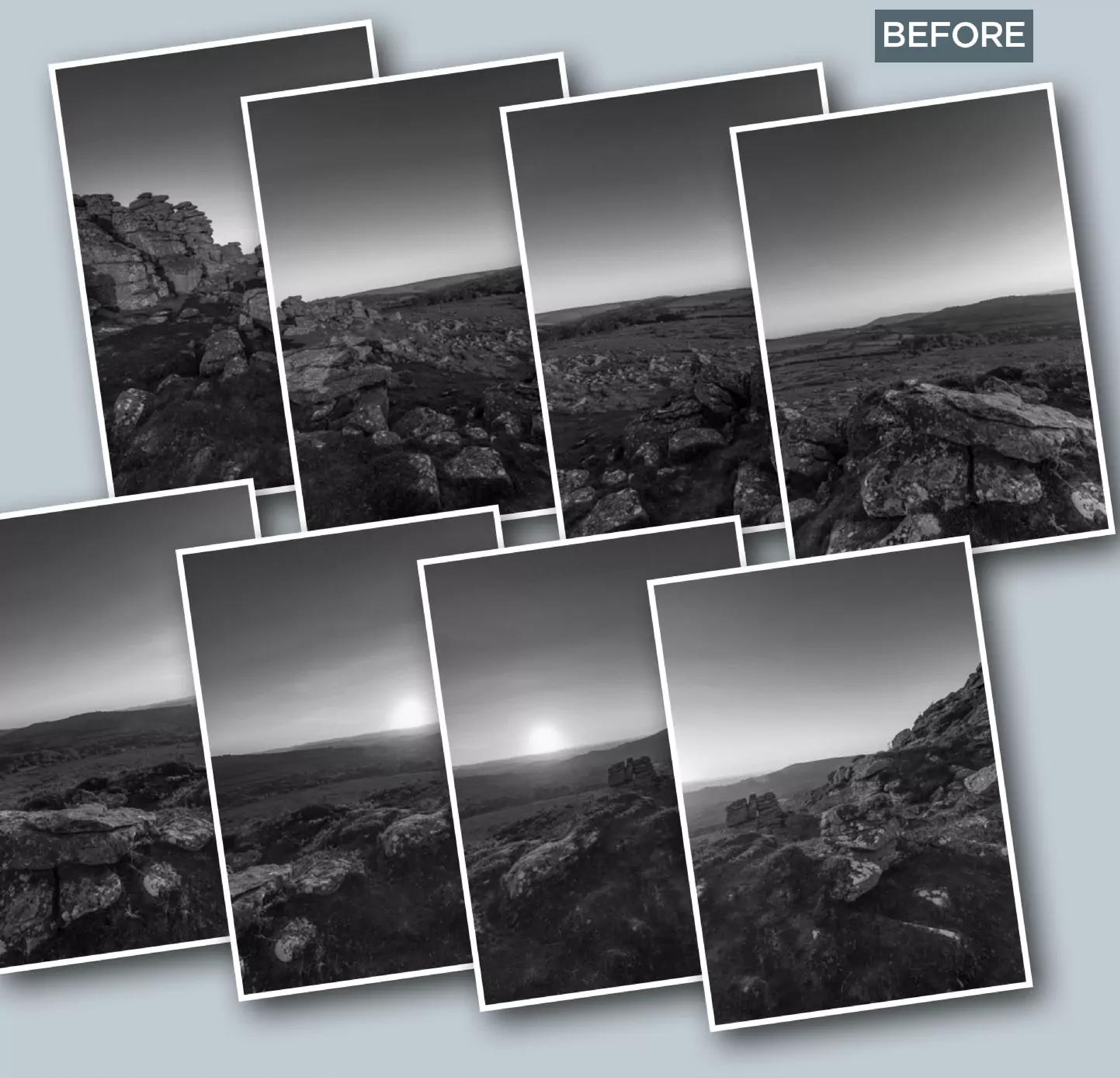
21 You won't usually need to add much brightness to achieve a dramatic improvement. An increase of +39 will usually be sufficient and a little drop in contrast.



22 When you've finished, press Ctrl+D to cancel the area selection. You are done. A series of small changes adds up to a big improvement.

Panorama stitching

SHOOT SUPER WIDE PANORAMAS WITHOUT THE NEED FOR SPECIALIST EQUIPMENT



There will come a time when your widest lens just won't be wide enough to capture the scale and grandeur of a particular landscape. This is where the ability to capture a panoramic sequence of shots and combine them into a much wider or higher resolution image comes in very handy. The process is pretty straightforward and just requires a little bit of thought regarding the approach to the sequence you are about to capture.

Essentially you are going to take a number of stills, rotating the camera a few degrees left to right with each shot taken, while allowing enough overlap from image to image so that they can be stitched together. This can be achieved with programs like Photoshop, PT GUI or Hugin, that rely on features in each shot being matched together to create accurate stitching points.

As a general rule, shoot with a wide angle lens and always try to overlap your images by 25% or more. For example, look for features that are right-most in your current shot like a car or building (something that isn't moving). For the next shot you rotate yourself on the spot so that those features are now left-most in the frame. These

matching features will help your software to stitch the shots together more accurately and avoid odd tearing and mismatches that can spoil the image.

Another consideration is to try and avoid a scene where a lot of objects are very close to the camera. Unless you are using specialist panoramic photographic equipment and lenses, you will find that even slight unwanted movement and rotation of the camera - which is unavoidable if you shoot hand-held - will result in big parallax shift errors in very near objects that not even the best software will be able to put right.

To capture a basic panorama from left to right you can set up your camera in the following way. Firstly set your camera to focus manually. Select a point of focus roughly a third of the way into your scene. This is a basic rule of thumb to quickly set yourself up to record as much sharp focus in your scene as possible. Working out the exact point into the scene that gives the best overall focus based on your aperture, referred to as the Hyperfocal Distance, is not to be approached lightly. For our purposes the most basic approach will do for now.

Your camera settings need to be set to give as little noise as possible, but keep a shutter speed fast enough to avoid camera shake or motion blur. Camera shake is a main concern if you are going to choose to shoot hand-held. For shot-to-shot consistency, it is always a good idea to shoot in manual mode and use a preset White Balance setting rather than Auto White Balance. With trial and error you can arrive at settings that yield enough detail on the ground and the sky without either losing detail in shadows or blown out highlights.

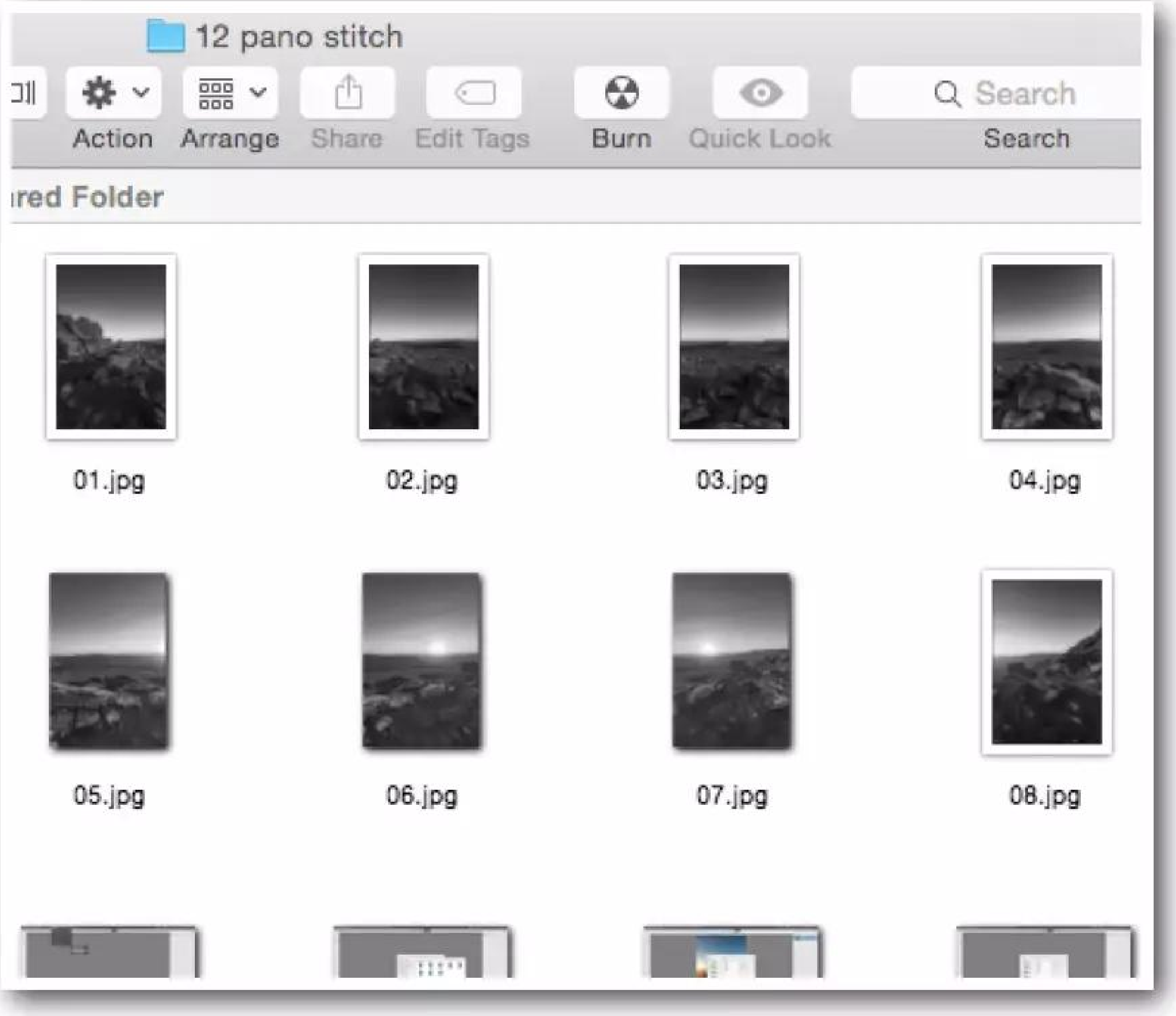
It goes without saying (but we'll say it anyway) that a tripod is the first requirement for good results. Images will be shake-free and the camera will rotate around a fixed point that won't move. It also gives you the option to have your camera set to shoot in landscape or portrait orientation. As long as your tripod and camera is as level as possible the results will be good. Most good tripods come with a spirit level built in to check. You can even buy a little spirit level cube that sits in your camera's hot shoe to help with levelling. Some newer cameras now come with a digital leveller built in.

For even greater stitching accuracy, you can attempt to rotate the camera around its nodal point. This is the point around which the lens must rotate in order to completely eliminate parallax shift. Without specialist equipment it can be very difficult to achieve. On wide angle lenses this nodal point is generally at or near the front lens group.

There is a very low-tech way you can do it yourself, whereby you rest the camera lens barrel on a pole or stick (even a sawn-off broom handle) so the front lens is as near the pole's centre of rotation as possible. It will be up to you to keep the camera as level as possible but it does help avoid those nasty parallax shifts. Oh, and people will wonder why you are rotating around a pole stuck in the ground!

Once you have your sequence, you can process the shots, taking care to make sure they are as level as possible. If you have a strong horizon line, this makes the process easier. Or if you have any strong verticals like the side of a building, it all helps. At this point you can choose to convert your sequence shots to black and white or finish the stitching and process the final result in colour and then do the mono conversion once you have the finished panorama.

Panorama stitching


12 pano stitch
Action
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ired Folder
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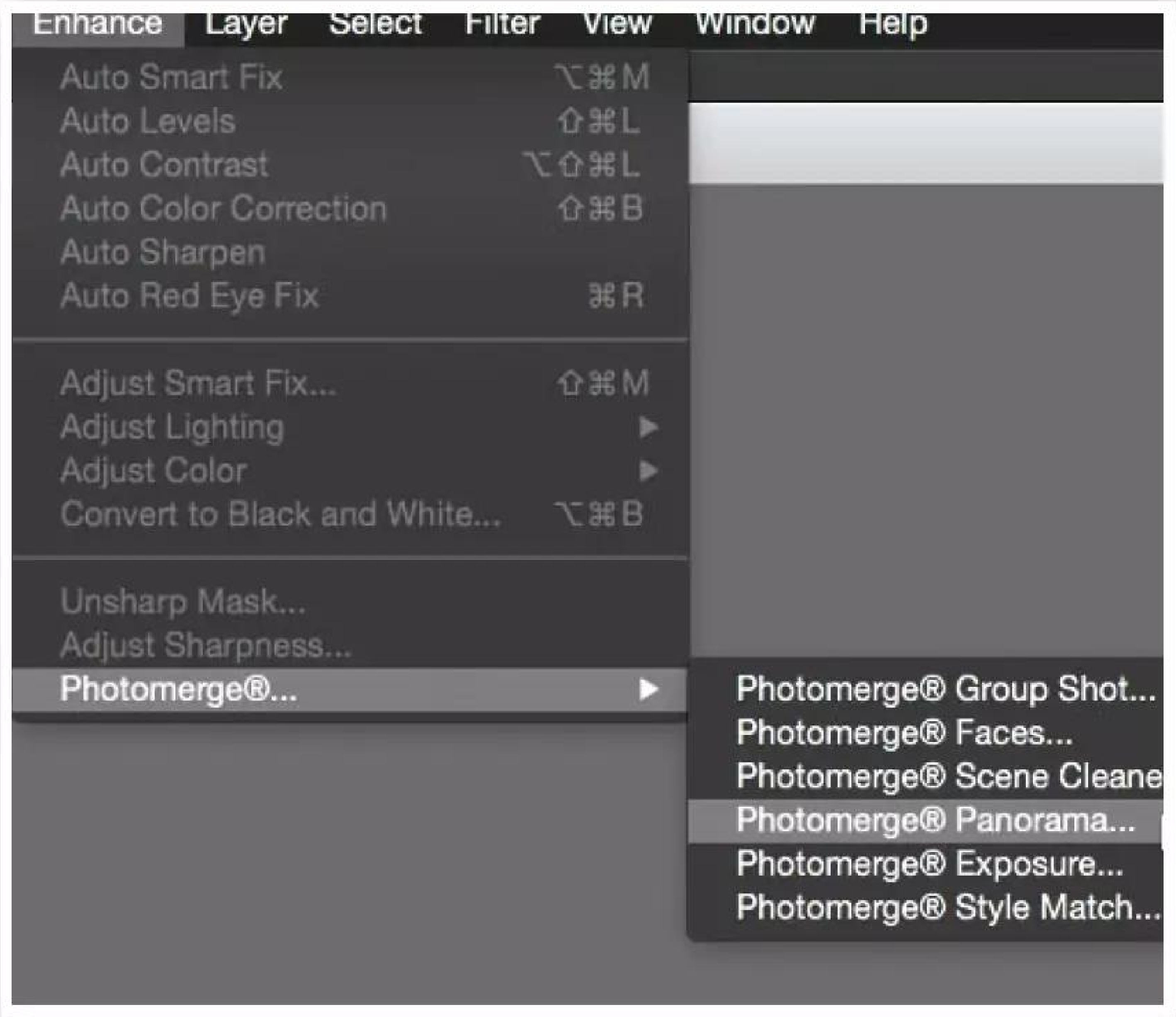
Enhance
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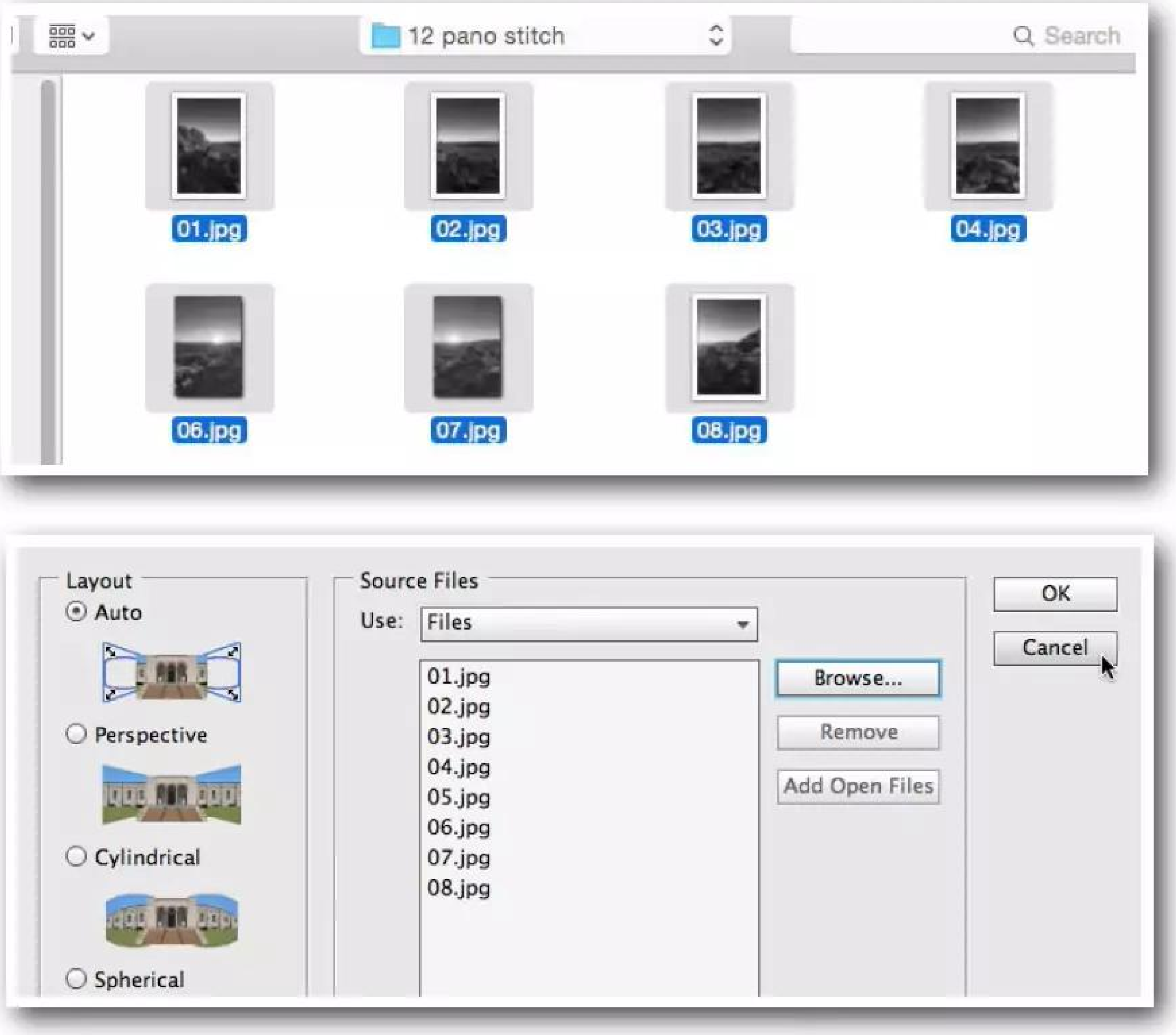
Help
Auto Smart Fix
Auto Levels
Auto Contrast
Auto Color Correction
Auto Sharpen
Auto Red Eye Fix
Adjust Smart Fix...
Adjust Lighting
Adjust Color
Convert to Black and White...
Unsharp Mask...
Adjust Sharpness...
Photomerge®...
Photomerge® Group Shot...
Photomerge® Faces...
Photomerge® Scene Cleane
Photomerge® Panorama...
Photomerge® Exposure...
Photomerge® Style Match...

01 Now that you have carefully shot your raw elements for the panorama, it's time to stitch them together. For the purposes of this tutorial we'll use these shots of Hound Tor on Dartmoor. Two sets were taken: a landscape orientation set of four shots; and a portrait orientations set of eight images which will be the ones we use.

02 In Elements you'll find Photomerge Panorama in the menu under "Enhance", along with several other automatic processes. In other programs it may be in the Edit menu.


12 pano stitch
Search
01.jpg
02.jpg
03.jpg
04.jpg
06.jpg
07.jpg
08.jpg
Layout
Auto
Perspective
Cylindrical
Spherical
Source Files
Use: Files
01.jpg
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05.jpg
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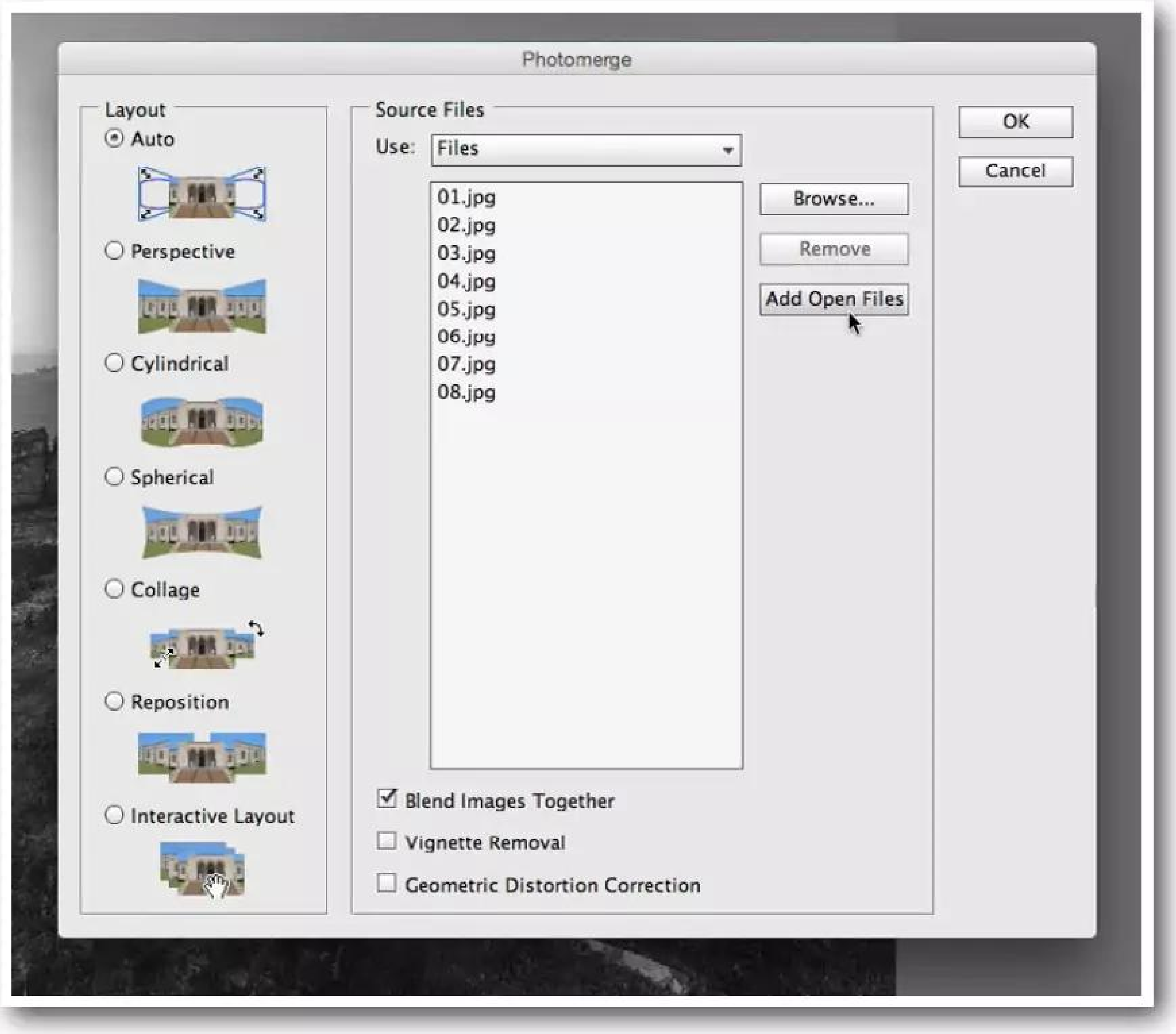
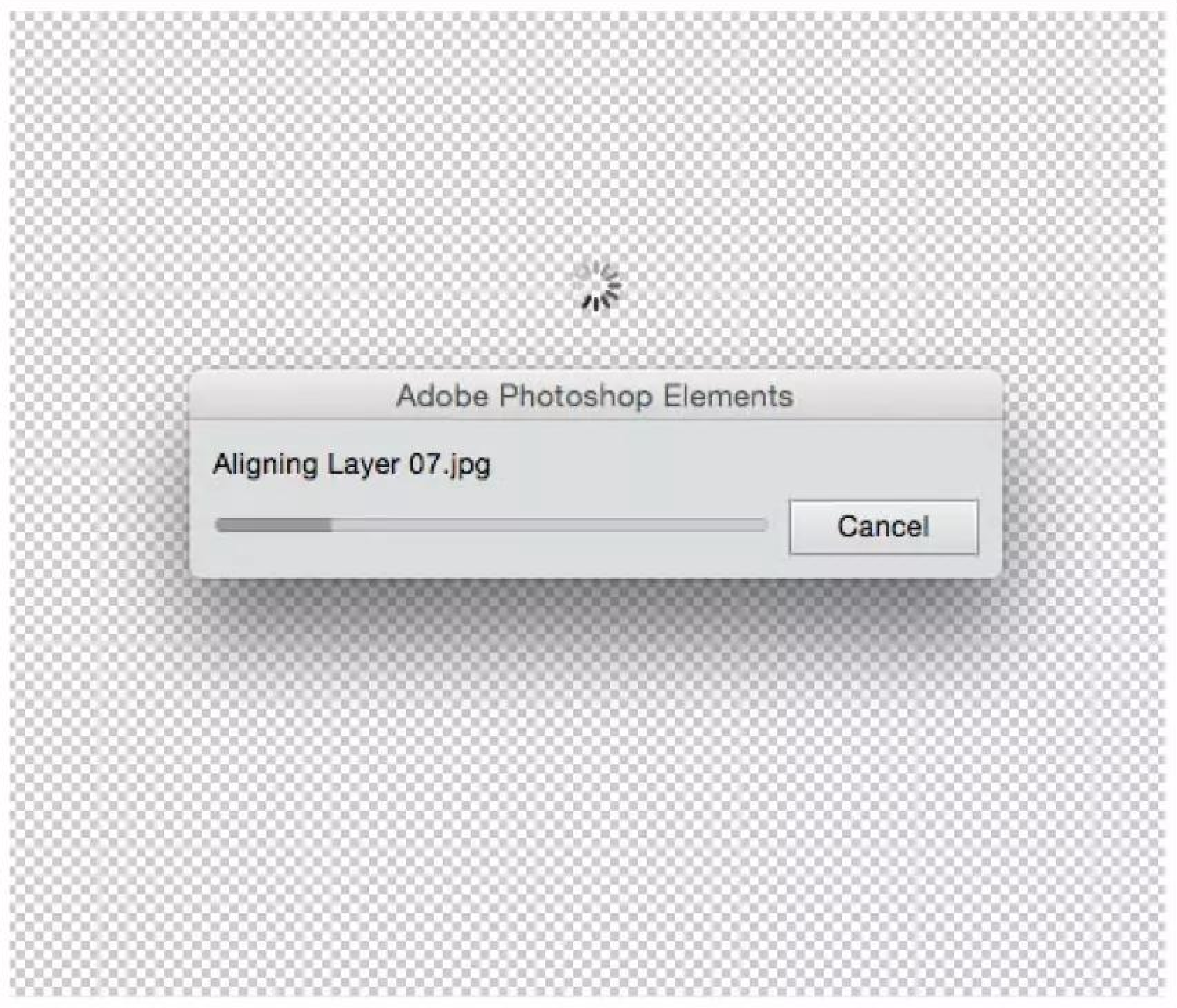
08.jpg
Browse...
Remove
Add Open Files
OK
Cancel

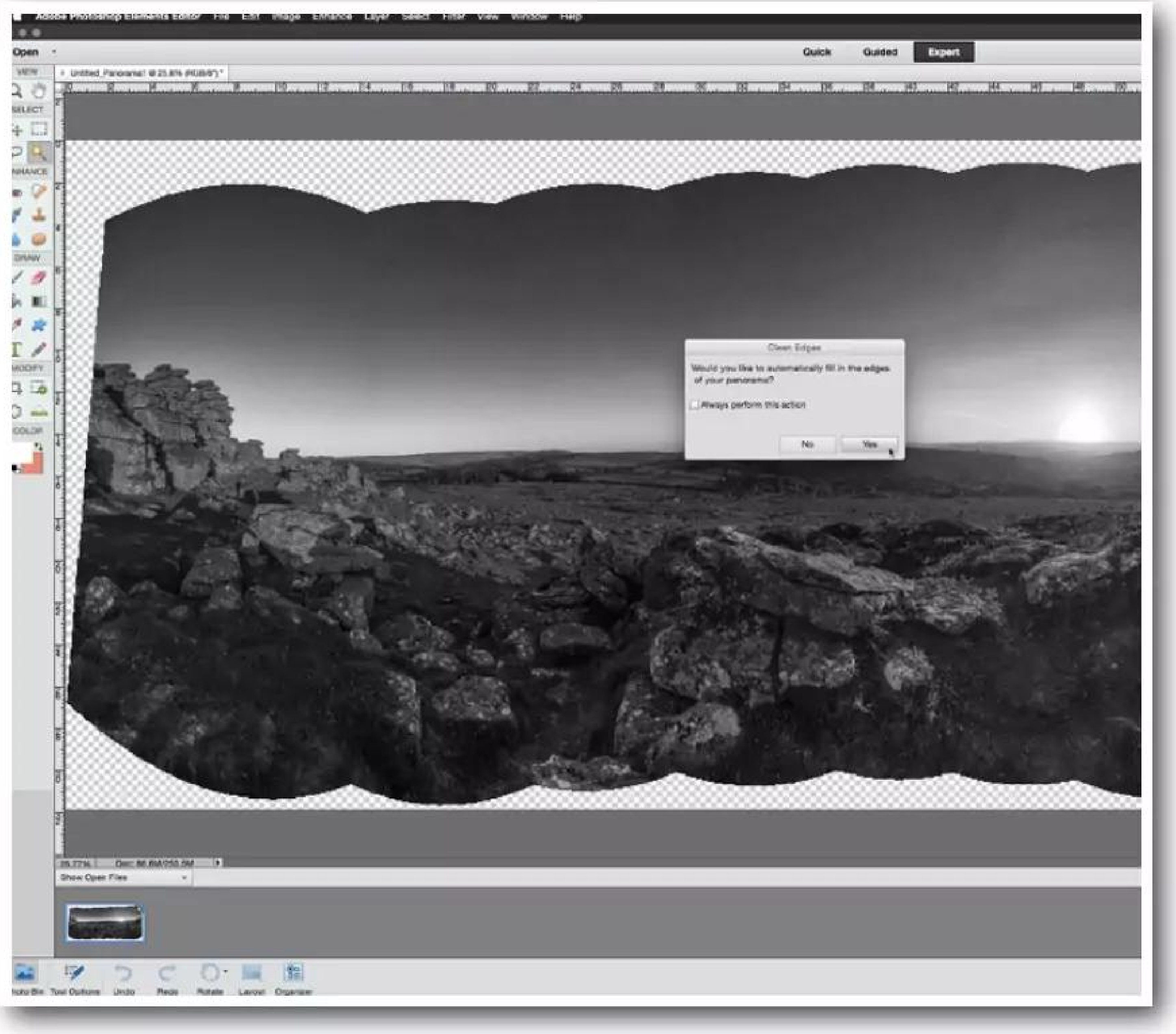

Photomerge
Layout
Auto
Perspective
Cylindrical
Spherical
Collage
Reposition
Interactive Layout
Source Files
Use: Files
01.jpg
02.jpg
03.jpg
04.jpg
05.jpg
06.jpg
07.jpg
08.jpg
Browse...
Remove
Add Open Files
OK
Cancel
Blend Images Together
Vignette Removal
Geometric Distortion Correction

03 If you click on this you'll see a simple dialog window with an option to browse to the location of the folder containing your panorama shots. Go there, highlight all the shots you want to include in your merged panorama and click OK.

04 Note that if you have the shots already open in your editor, they can be selected automatically; but since having photos open in the editing program uses up memory, the merging process will go faster if you leave them closed and use the dialog browser instead.

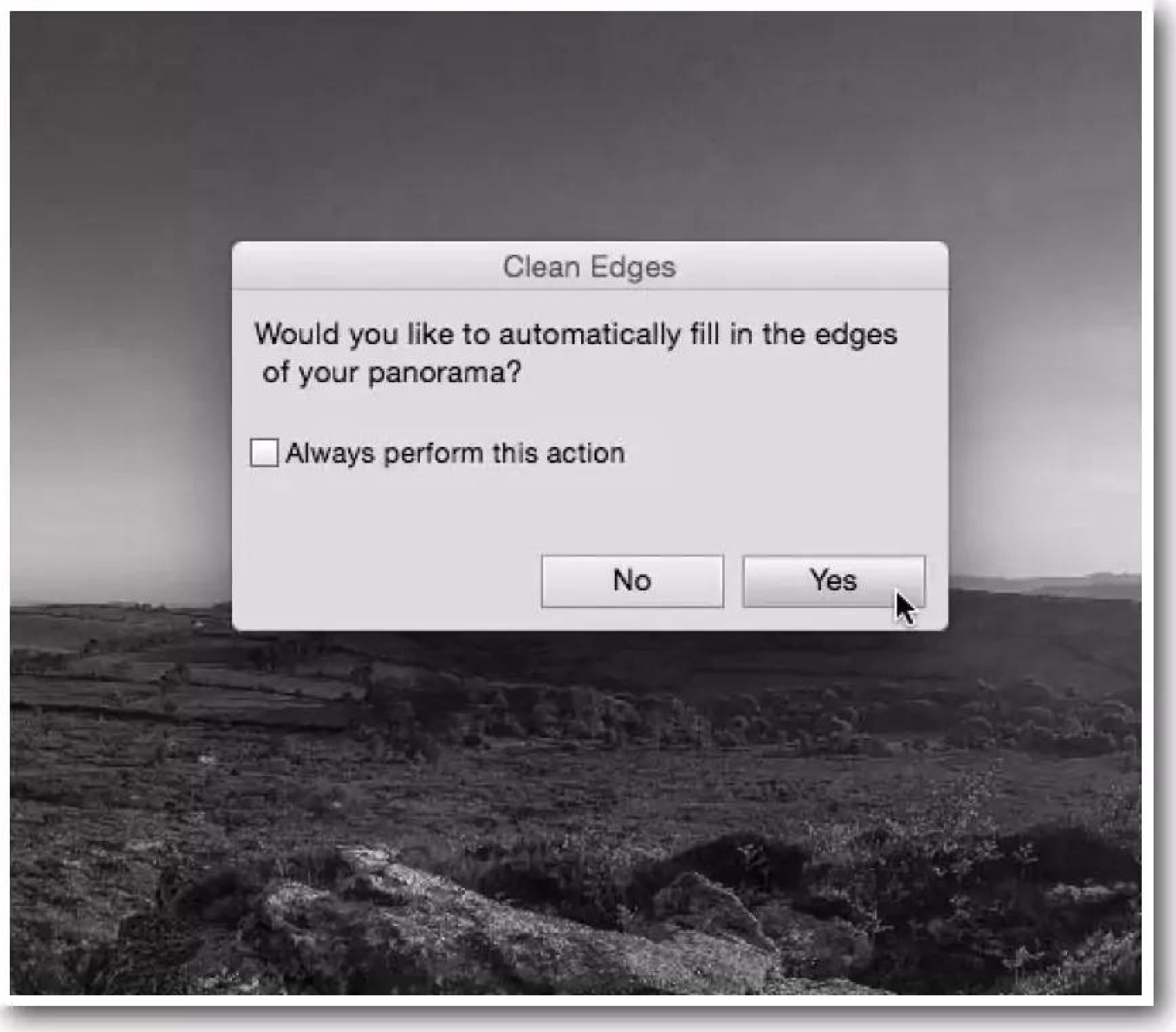

Adobe Photoshop Elements

Aligning Layer 07.jpg



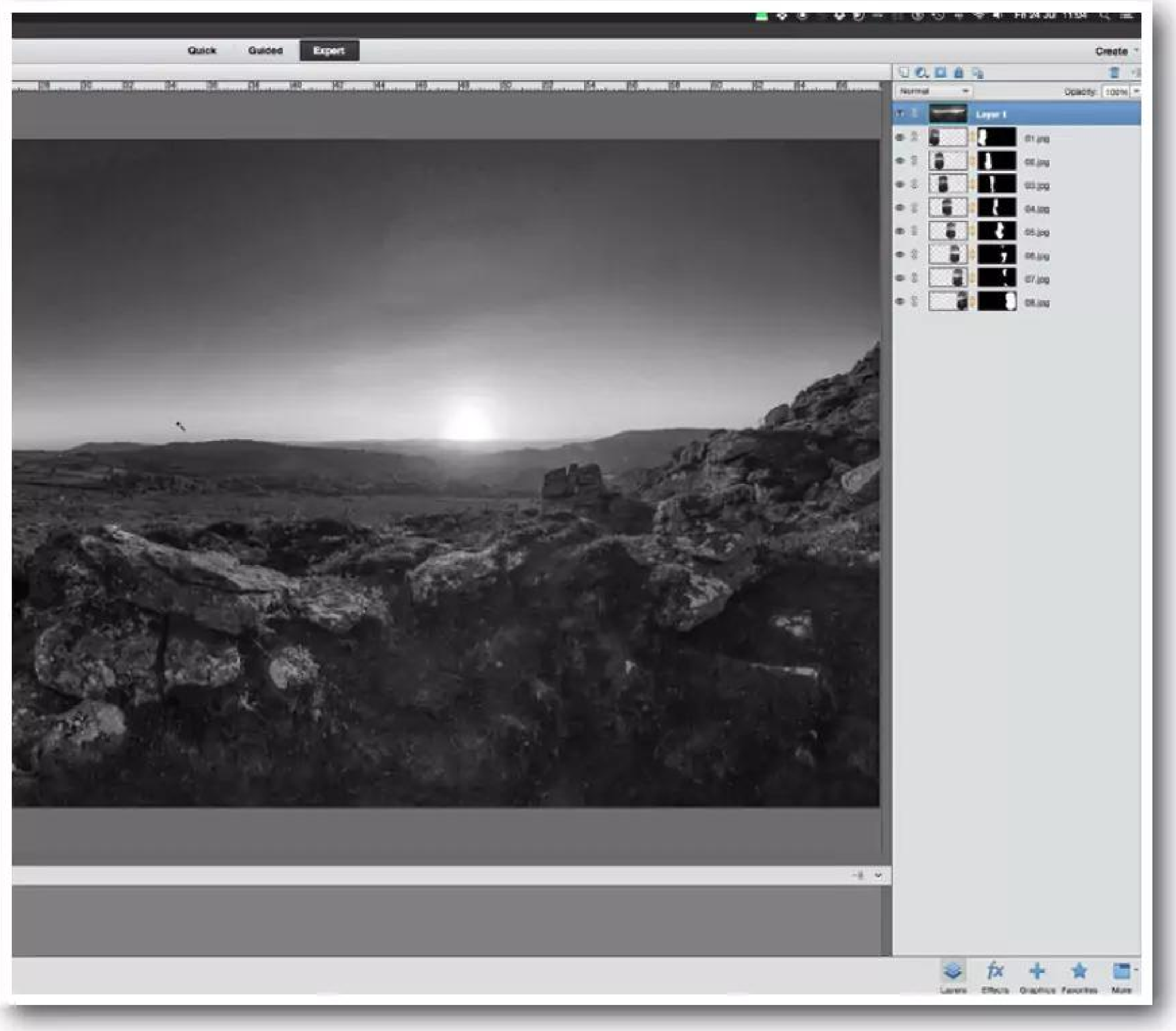
05 Once you click OK the merging process starts, and it is completely automatic. It will take a while to complete, possibly quite a long while if you have a slow computer and/or very large image files.

06 When the stitch is complete, the first thing you will notice is that there are a lot of rough edges to your panorama. You could decide to crop your image manually, but there is another option.


Clean Edges

Would you like to automatically fill in the edges of your panorama?

☐ Always perform this action



07 The Photomerge Panorama function in Elements includes the option to automatically fill in any edges in your panorama using Adobe's amazing content-aware fill technology. Click Yes on this option to see just how good it can be.

08 Be aware, if you choose the content-aware fill function to clean up the edges of your shot, the size of your panorama will dictate how long the process takes. If you have a very large image, it can take some time. You may even experience an out of memory error.

Glossary

Abstract photography
A means of depicting a visual image that does not have an immediate association with the real world.

AMOLED
Active-matrix organic light-emitting diode. A new type of display technology used in mobile devices and televisions, and in the monitors of some digital cameras. Has several advantages over LCD, including using less power.

Aperture
Behind the lens of your camera is a movable circular iris which opens and closes to control the amount of light falling on the sensor. This is usually controlled by the light meter, although some cameras have a manual aperture control. Altering the aperture also changes the depth of field.

Aperture priority
This is one of the semi-manual exposure options found on some cameras. The user sets the aperture according to the depth of field they require, and the metering system sets the shutter speed to obtain the correct exposure.

Artefacts
When an image is stored in your camera's memory it has to be compressed to fit, usually into a JPEG file, and in the process some information is inevitably lost. When the image is uncompressed for viewing, noise creeps in and appears as angular blocks in the image, which are known as artefacts.

Autofocus
Almost all digital cameras have automatic focusing. There are essentially two types; contrast detection, used in compact cameras and most CSCs, uses the camera's main sensor and works by detecting the borders between high-contrast areas and trying to make them as sharp as possible. Phase detection AF is used in digital SLRs and some CSCs, and uses a separate sensor. It is usually faster and works better in low light.

AE lock
Auto-exposure lock. A function found on most advanced digital cameras. This enables you to take a light meter reading from a particular part of the image and then hold that setting while you compose the image. Useful for dealing with backlighting and other difficult lighting situations.

Backlighting
Backlighting occurs when your subject is brightly lit from behind, such as somebody standing in front of a sunlit window. Unless you adjust the exposure to compensate for this, your subject will appear as a dark silhouette against the bright background.

Back-side illumination
Not to be confused with backlighting, this refers to a new method of sensor design. In conventional sensors the wires connecting the photocells of the sensor run over the front surface of the chip, reducing the light-collecting area. Back-side chips are made the other way up, so that the wires are on the back. Offers potentially better low-light performance.

Barrel distortion
Barrel distortion occurs when a lens, usually wide-angle, distorts an image so that it appears slightly spherical. If you take a seascape with a wide-angle setting and notice that the horizon seems to curve, this is barrel distortion. It's most noticeable when there are straight lines near the edge of the frame. In digital images barrel distortion can be corrected in image-editing software.

Beauty dish
A beauty dish is a photographic lighting device that uses a parabolic reflector to distribute light towards a focal point.

Bracketing
Bracketing shots is where a photographer takes the same shot three times or more, each at different exposures. This increases the chance of getting an ideally exposed image. Also, it's possible to combine the shots in software to increase the light and shade within the image, which is how HDR works.

Burning
A darkroom process that gives additional exposure to part of the image projected on an enlarger to make that area of the print darker.

Burst mode
Many cameras offer a burst mode, which means they can take several images in rapid succession, just as you'd get with a motor-wind on a traditional film camera. The number of shots that can be taken is limited by the speed of the camera's image capture and processing systems, as well as the size of the internal memory buffer. You'll typically get about three frames per second from a standard digital camera in burst mode.

Camera obscura
A darkened box with a convex lens or aperture for projecting the image of an external object on to a screen inside, a forerunner of the modern camera

Centre-weighted metering
This is when the camera takes an average light reading from the whole frame, but pays more attention to the centre of the image where the subject normally is. This has been largely superseded by multi-pattern metering, which is better able to cope with unusual situations.

CCD
Charge coupled device. This is the light sensor behind the lens of your camera that records the image when you take a photograph. It consists of a grid of millions of tiny light sensors, one for each pixel of the image. The size of a CCD is measured in megapixels, and the higher the megapixel rating, the better the image quality.

Chiaroscuro
Italian for light-dark. The use of bold contrast that defines the shape of the subject and adds a sense of volume. Famed artists such as Caravaggio and Leonardo Da Vinci used this technique.

Chromatic aberration
Coloured fringes that appear around objects, often toward the edges of the frame. Caused by light rays of different

Daguerreotype
The first publicly announced
photographic process.

photographic-quality results, although
most modern printers are capable of this.

Effective pixels

EXIF

wavelengths coming to focus at different distances from the lens. Better quality lenses seek to minimise this by the use of special coatings and lens designs. Can be corrected by software after the picture is taken.

Contrast

The range of tones visible in an image. These tones range from black and the darkest shadows to the brightest highlights and pure white.

Daguerreotype

The first publicly announced photographic process.

Depth of field

When you focus your camera on a subject, some detail behind and in front of the chosen subject will also be in focus. The distance between the nearest and furthest in-focus objects is known as the depth of field. It is changed by altering the size of the aperture – the smaller the aperture, the larger the depth of field.

Digital zoom

Some cameras give you the option of zooming in on the centre of an image by expanding it in the camera. Although the zoomed area looks bigger, it still contains the same number of pixels as it did originally, so it will appear blocky and will lack resolution. Not to be confused with optical zoom, which is far superior.

Dodging

Holding back the image-forming light from a part of the image projected on an enlarger during part of the basic exposure time to make that area of the image lighter.

Dye-sub printer

A dye-sublimation printer (or dye-sub printer) is a computer printer which employs a printing process that uses heat to transfer dye onto materials

Dynamic range

The difference between the lightest and darkest areas of an image. If a camera can simultaneously capture shadow and highlight detail then it has good dynamic range. Few cameras can do both.

DPI

Dots per inch. The sharpness of an image produced by a printer is defined by how many dots of ink per inch of printed paper its print head can produce. A figure of 1,200dpi or higher is usually required for photographic-quality results, although most modern printers are capable of this.

Effective pixels

Although your digital camera may claim to have 13.6 million pixels on its CCD, some of that number will not be used for taking the picture. Usually, some pixels around the edge of the sensor are painted black to provide a colour balance, while others fall outside the range of the lens.

Electronic viewfinder

Some cameras have a viewfinder containing a miniature LCD monitor showing you what the camera sees. This usually uses less battery power than the LCD screen on the back of the camera, but can be a strain on the eye and difficult to focus.

Exposure

When you take a picture, the light meter in the camera determines how long the shutter should be open for and how wide the aperture should be, thus obtaining the correct exposure. If a picture is too dark, it is underexposed; whereas if it goes the other way and is too light, it is overexposed.

External flash

This means that the camera has a connection, usually a hot shoe, that enables you to use a flashgun other than the one built into the camera. This allows a lot more creative freedom and control over lighting, because the flash can be positioned further away from the camera. This feature is only usually available on more expensive or professional-quality cameras.

EXIF

The Exchangeable Image File (EXIF) format is used by nearly all digital cameras that output pictures as JPEGs. It enables information, such as the GPS co-ordinates, date and time the shot was taken, plus exposure and other camera information, to be stored in the image file alongside the normal picture information.

Fixed focus

Cheaper cameras have fixed-focus lenses, which means they cannot be adjusted. Instead they rely on a very narrow aperture to make everything appear in focus, from a few feet in front of the camera out to infinity. They are fine for snapshots at average distance in good light, but are not so good for creative photographs where focus can be used to produce unusual effects.

Flash

A flash is a device used in photography producing a flash of artificial light (typically 1/1000 to 1/200 of a second) at a colour temperature of about 5500K to help illuminate a scene.

Focal length

In brief, this term describes the magnifying power of the camera's lens. The longer the focal length, the greater the magnification. Conversely, the smaller the focal length, the more wide-angle the lens. Most digital camera zoom lenses can vary between short and long focal lengths.

f-number

This is the number which describes the ratio of the aperture of a camera's lens to its focal length. Generally, a higher quality lens will have a smaller f-number, which bizarrely means a wider maximum aperture, and thus more light entering the lens. See also 'Depth of field' for more information about focusing.

Graduated ND filter

Used typically in landscape photography. Half of the filter is of neutral density which transitions, either abruptly or gradually, into the other half which is clear.

Greyscale

Images of this sort, also known as black-and-white, are composed exclusively of shades of grey, varying from black at the weakest intensity to white at the strongest.

Glossary

HDR

Aw technique whereby several shots at different exposures are combined to produce one image capturing a very wide range of contrast or dynamic range. Useful for high-contrast lighting and night-time shots, but can be over-used by art students who've just discovered it.

High-key lighting

High-key lighting is a style of lighting for film, television, or photography that aims to reduce the lighting ratio present in the scene. It produces images where very little detail is present in highlights and mid-tone areas.

Histogram

A histogram is a graph of brightness. It ranges from black through grey to white along the horizontal axis, while values in the vertical axis represent the number of pixels at the appropriate brightness. It provides a means of checking the exposure of an image. If too many pixels are present at the left-hand side of the histogram, the image is underexposed; while if it's weighted to the right, then it's likely to be overexposed.

Inkjet printing

Inkjet printing is a type of computer printing that recreates a digital image by propelling droplets of ink onto paper.

Interpolation

Some cameras and image-editing software can increase the size of a digital image by adding extra pixels in between the original ones. They take an average of the pixels around the new one and attempt to match the colour and brightness to create a seamless image. Some systems give better results than others.

ISO

International Standards Organisation. In conventional photography, the ISO number is a measure of the light sensitivity of photographic film, and this has been carried over into digital photography as a way of expressing the light sensitivity of the CCD.

Jaggies

Jagged diagonal lines that appear in a low-resolution picture. Pixels are square, so if large pixels are being used to represent a diagonal, you'll be able to see the corners of each, creating a saw-like edge. Anti-aliasing is used to soften jaggies, whereby the software will attempt to calculate 'in-between' shades to blur the line a little and make it look a lot smoother.

JPEG

This file type stands for Joint Photographic Expert Group, and is the most commonly used system of image compression. Using a sliding scale between file size and picture quality, it enables digital cameras and computers to squash a large picture into a small amount of memory. Be careful when compressing files, though, because too much compression will reduce the quality of your image.

Landscape mode

A program exposure option found on many mid-priced cameras, this function automatically selects the best exposure settings for taking landscape photographs, usually a longer shutter speed and the narrowest possible aperture to maximise depth of field. It can also refer to holding the camera horizontally, which is usually preferred for landscape shots.

LCD

Liquid crystal diode. A display technology first developed in the 1970s and in widespread use today. Most cameras have an LCD monitor screen mounted on the back for viewing photographs. Some also have an LCD electronic viewfinder, and some DSLRs also have a separate LCD data display panel.

Light modifier

A piece of equipment or material placed in front of a light source to change the quality of the light emitted. A flash with a large softbox attached is a typical example.

L-ion

Lithium ion. This is the latest kind of rechargeable battery, superior even to Ni-MH. It can hold more power, and does not suffer from 'memory effect', where a partially charged battery, when recharged, will only register the additional charge rather than its full capacity. However, L-ion batteries are quite expensive.

Low-key lighting

High-key lighting is a style of lighting for film, television, or photography that aims to reduce the lighting ratio present in the scene.

Macro mode

Refers to a lens that can focus closer than its designated focal length, but these days it is used to describe any facility for taking extreme close-ups.

Manual mode

Found on higher-end cameras, this is for experienced photographers only. It gives you full control over both aperture and shutter speed, enabling you to experiment with exposure and depth of field. Essential for creative photography.

Megapixel

Megapixels are a measure of the size and resolution of the pictures that a digital camera can produce. Mega means one million, and in this case a million pixels, or more accurately a million individual light sensors on the camera's CCD. The more megapixels, the better.

Memory card

Most digital cameras store your pictures on removable cards full of computer memory. They come in a variety of sizes and there are several different types, including CompactFlash, SD and MicroSD cards, as well as Sony's own Memory Stick format.

Metering system

This is how the camera measures the amount of light being reflected by whatever you are trying to photograph, to determine the correct exposure for that particular scene. There are many different types, including spot metering, multi-pattern metering and centre-weighted metering.

Mid-tone

The mid-range set of tonal values that falls between highlights and shadows.

Monobloc

A monobloc or monolight is a self-contained photographic flash lighting unit usually found in a studio.

Daguerreotype
The first publicly announced photographic process.

photographic-quality results, although most modern printers are capable of this.

Effective pixels

EXIF

Monochrome
Monochrome describes paintings, drawings, or photographs in one colour or values of one colour.

ND filter
The purpose of a standard photographic neutral-density filter is to reduce the amount of light entering the lens.

Night-time mode
A program exposure mode that compensates for low light by setting the aperture to maximum. This lets the most available light into the camera and gives the fastest possible shutter speed under the circumstances.

Optical zoom
With recent advances in lens manufacturing technology, many digital cameras now have small but powerful optical zoom lenses. This means they can be adjusted to magnify the image (zoom in) or to capture a wide-angle shot (zoom out). Because the image uses the full capabilities of the CCD this is preferable to digital zoom.

Panorama
A panorama is any wide-angle view or representation of a location.

Pixel
Abbreviation of 'picture element'. If you enlarge a picture on your computer, you will see that it is made up of tiny squares of a particular colour and brightness called pixels. A pixel is the basic building block of a digital photograph, and there can be several million of them in an image. The higher the pixel count, the better the quality of the photograph.

Polariser
A polariser is an optical filter that passes light of a specific polarisation and blocks waves of other polarisations. Simply put, it can cut down certain reflections in glass or water, for example, to enable you to see the subject.

Portrait mode
This is a program exposure mode that optimises the camera for taking classical portrait shots, widening the aperture to minimise the depth of field. This ensures that only the subject is in focus, while the shutter speed is increased to minimise camera shake.

Prime lens
In photography, a prime lens is a photographic lens whose focal length is fixed, as opposed to a zoom lens.

Processor
All digital cameras have an image processor, which takes the data from the sensor and turns it into the finished JPEG image that you see on the screen. A faster processor means larger resolution images can be processed more quickly, improving the camera's performance.

Program exposure
Found on most digital cameras, program exposure is an automatic setting where the camera's metering system selects an appropriate aperture setting and shutter speed in an attempt to get the best exposure and performance out of the lens.

Raw
Raw mode is found on most high-end digital cameras. It is an option which stores the uncompressed raw data from the sensor, which can then be processed on a computer using software such as Adobe Camera Raw, Bibble etc. Raw files contain more information than JPEGs, and take up more memory. Raw is actually not an acronym and so shouldn't be all capitals; it should really be written simply as "raw".

Resolution
The more pixels there are in an image, the sharper that image will be. This is the resolution of the picture, and is usually expressed as two numbers representing the height and width of the image in pixels, such as 3,872 x 2,592. Multiplying these two figures gives you the effective megapixels, in this case 10.03MP.

Sepia
Sepia tones are used in photography. The hue resembles the effect of aging in old photographs.

Shutter
The shutter is a device behind the lens of the camera which is normally closed, but opens for an instant when a picture is taken to allow light into the camera and onto the CCD. The length of time for which the shutter is open is determined by the metering system, and is known as the shutter speed.

Shutter priority
This is a semi-manual mode that enables the photographer to specify a shutter speed while the camera's metering system sets the aperture for the correct exposure.

SLR
Single-lens reflex. A mirror or prism reflects the light coming in through the lens to the viewfinder, so when you look through it you see exactly what the camera can see.

Spot metering
Found on the more expensive cameras, this metering mode enables the photographer to take a light reading from a small area in the middle of the frame, usually marked in the viewfinder. This is the best way of dealing with difficult lighting conditions such as backlighting, and is normally used in conjunction with auto-exposure lock.

Vignette
Vignetting is the softening or shading away of the edges of a subject in an image.

White balance
Most modern digital cameras automatically adjust the colour balance of the picture to compensate for any tints in the ambient light - such as sunlight, fluorescent strip lights or normal lightbulbs. This is called a white balance, and means you can take a picture indoors without that orange tint you get with a film camera.

Zone System
Developed and mastered by Ansel Adams, there are 10 zones, ranging from black (Zone 1) to white (Zone 10).

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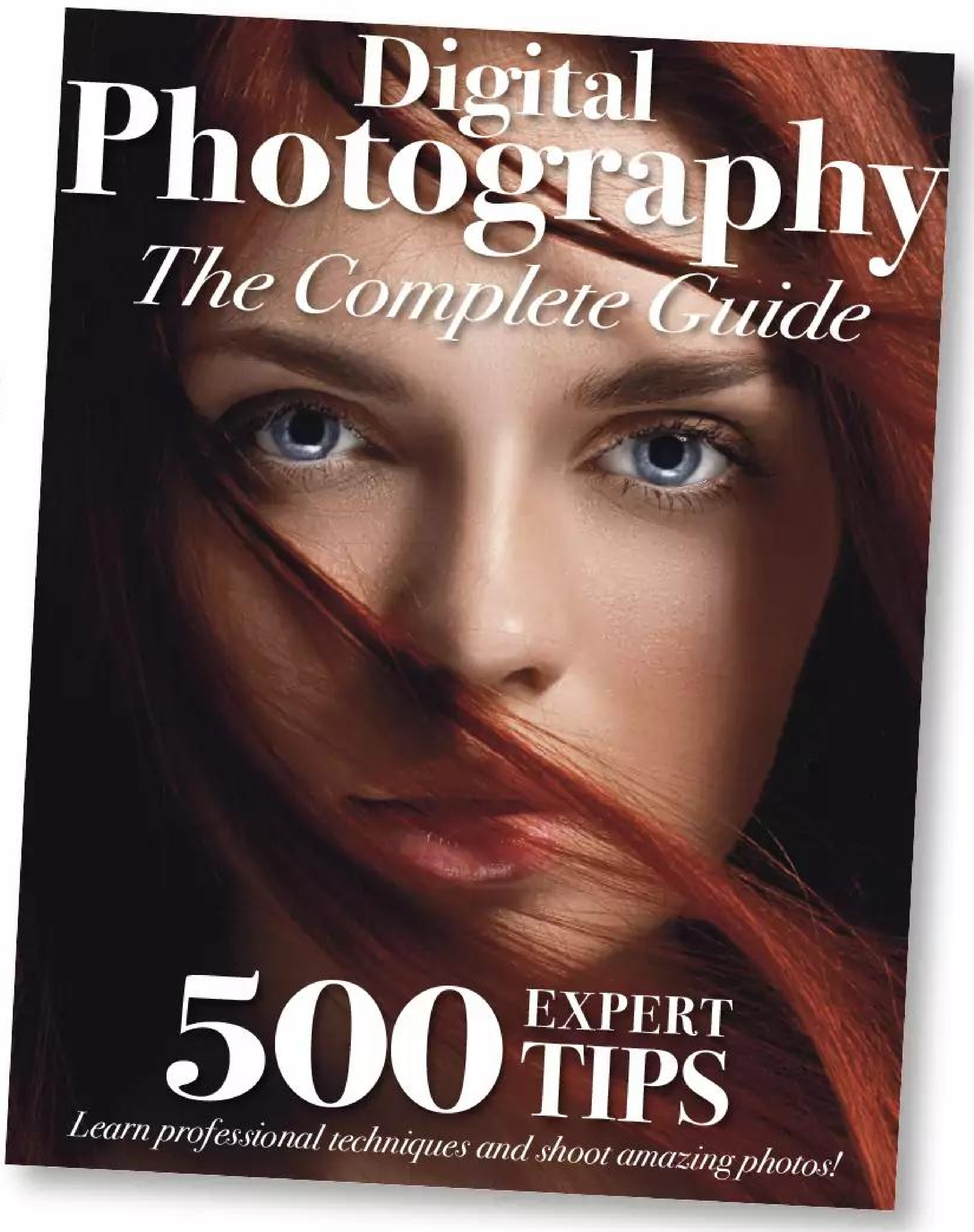
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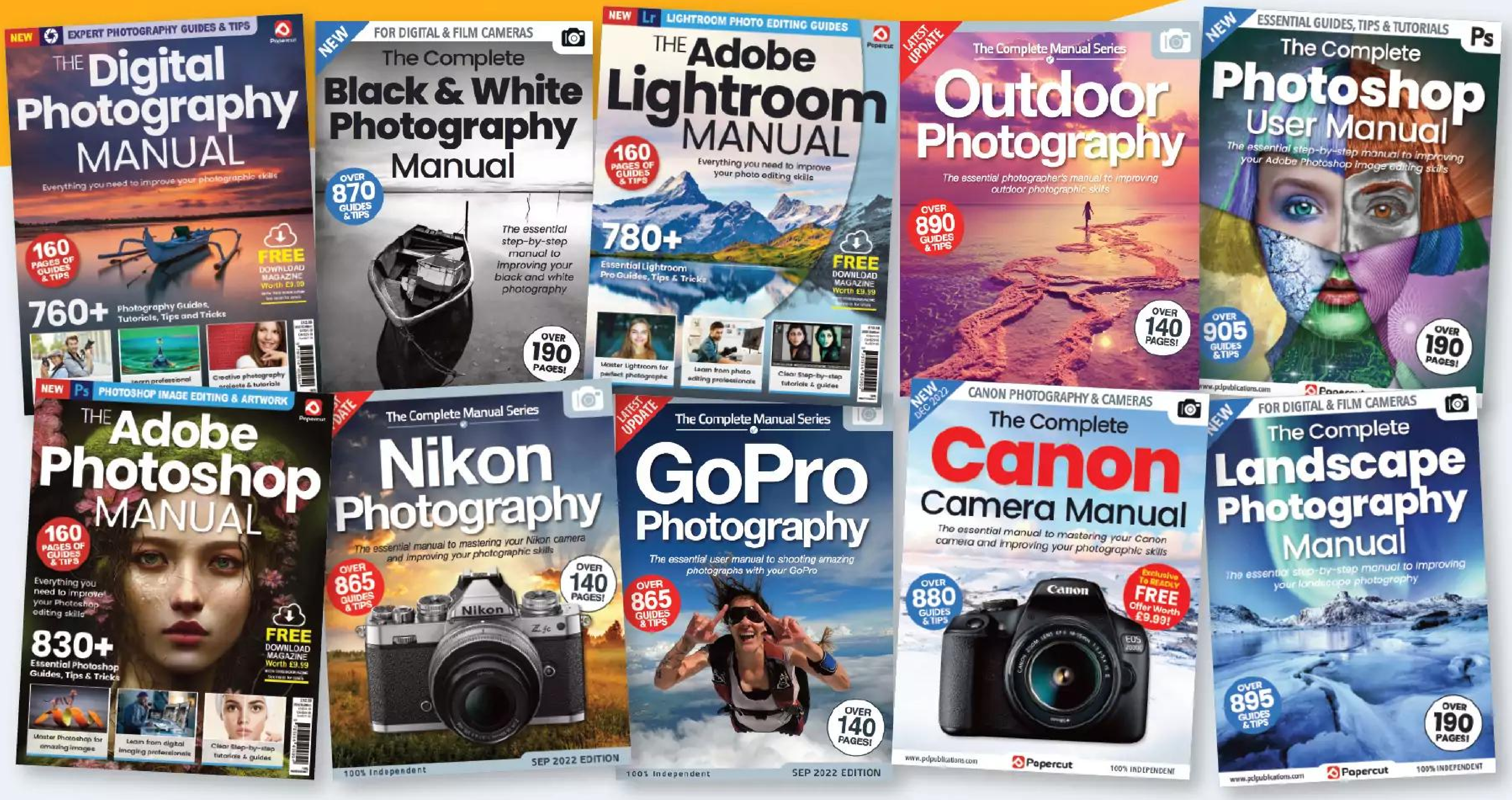
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